DOCUMENT RESUME

ED 378 308 CE 064 200

TITLE	Workplace Literacy Project. Computer Aided Instruction in Basic Workplace Skills, May 1, 1991-October 31, 1992. Performance Report, Executive Summary, and Curriculum Guides.
INSTITUTION	Mott Community Coll., Flint, MI.
SPONS AGENCY	Office of Vocational and Adult Education (ED), Washington, DC. National Workplace Literacy Program.
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IDENTIFIERS	*Workplace Literacy

ABSTRACT

Originally designed to serve 400 employees, the Mott Community College (MCC) Workplace Literacy Project provided instruction in basic workplace skills to 566 employees from 20 companies. The cost was 2 percent lower than projected. All participants were assessed and counseled on the basis of the assessment tests. Individualized training plans were developed for each employee. A written evaluation was administered to each participant at the midpoint of each training sequence. Adjustments to the delivery of the curriculum were made in response to the data: delivering handout materials in a workbook format instead of distributing on a class-by-class basis, additional classroom materials, more site-specific curriculum materials, and more in-depth information on topics. Changes made as a result of the final course evaluation included combining closely related curricula into one training sequence and moving classes from worksite to MCC or the reverse. Local, statewide, and national dissemination activities included articles and speeches at conferences. Appendixes include examples of dissemination products, an evaluation of the project, t-tests for paired samples, employer survey and frequencies, midpoint and final evaluation forms, and weighted data from evaluations of courses, instructors, and materials. Six separately published curriculum guides for Reading, Writing, Math, Communications, Human Relations, and Problem Solving, respectively, are appended. (YLB)

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ED 378 308

WORKPLACE LITERACY

Computer Aided Instruction in Basic Workplace Skills

May 1, 1991 - October 31, 1992

PERFORMANCE REPORT EXECUTIVE SUMMARY

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
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CE 064 200

Submitted by:

MOTT COMMUNITY COLLEGE
COMMUNITY EDUCATION
BUSINESS & INDUSTRY TRAINING
711 N. Saginaw, Suite 123, Flint, MI 48503

Scott Jenkins, Director of Business & Industry Training
James J. Chybowski, Project Director

January 15, 1993

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WORKPLACE LITERACY

May 1, 1991 through October 31, 1992

PERFORMANCE REPORT
EXECUTIVE SUMMARY

The Mott Community College Workplace Literacy Project, initiated under U.S. Department of Education award #V198A10048-91, was a success for the 566 workers from 20 companies served, the college and the community. All objective of the proposal were met or exceeded in a timely manner.

Originally designed to serve 400 employees, the project provided instruction in basic workplace skills to 566 employees (42% more than projected) at a cost 2% lower than projected. Local employers and MCC provided almost $370,000 to match the $300,000 provided under the USDOE award.

The specific objectives of the project and commentary on completion follow:

Objective 1) Identify 400 employees of small to mid-sized firms who are in need of basic skills training in order to retain their current jobs or in order to qualify for advancement and/or promotion within their firm. (200 will be identified in Lapeer County and 200 identified in Genesee County).

Lapeer County Companies	Number of Participants Unduplicated	Genesee County Companies	Number of Participants Unduplicated
Albar Ind.	51	Bargain Bills	1
Durakon Ind.	31	Comm. Mental Health	7
Hydraulic Tubes	47	Dupont	23
Johnson Control P	61	Fernco	42
Johnson Control T	86	Genesee Pack	22
Lapeer Metal	3	Johnson Mayhew	1
Trayco	17	Lear Seating	50
		Lucas Cirtek	26
		Pepsi	17
		Pioneer	51
		Semtron	21
		Tuar	8
		Troy Design	1
Total: Lapeer	296	Total: Genesee	270

A demographic composite summary is available from the Project Director.

Objective 2) All 400 employees identified and interested in the program will have a battery of assessment tests administered to them in groups of 25.

284 employees were assessed using MCC's placement examination.
214 of those tested entered the program as participants.

57 employees were assessed using the Tests of Adult Basic Education (TABE). 17 of those tested entered the program as participants.

25 employees were assessed using the Myers-Briggs Personality Test. 25 of those tested entered the program as participants.

All 566 participants were assessed upon entering the program by the instructor during the first class session. A variety of instruments were used.

Objective 3) With the assistance of career assessment planners and licensed counselors, each employee will develop an individualized training plan in accordance with the workplace needs stated by the employee's employer.

All 566 participants were counseled on the bases of the assessment tests, and a training plan developed. In addition, 110 employees were counseled but did not enter the program as participants.

Objective 4) Employees will be placed in appropriate classes, customized to the needs of the workplace and individualized to the assessed skills of the employee.

The objective was accomplished through site visits made by the project director and instructors, through interviews of employers and employees, and by responding to assessment data.

Objective 5) Training is formatively evaluated at mid-point of each training sequence. (see objective 6)

Objective 6) Training is summatively evaluated at the end of each training sequence.

Objectives were accomplished through a written evaluation administered to each participant at the mid-point of each training sequence. Adjustments to the delivery of the curriculum were made in response to this data. Some changes made as a result of the mid-term evaluations include delivering handout materials in a workbook format instead of distributing on a class-by-class basis, additional classroom materials, more site specific curriculum materials, and more indepth information on a particular topic. Curriculum adjustments responded to the expressed needs of the individual class.

Changes made as a result of the final course evaluation included: combining closely related curriculums such as communications and human relations into one training sequence. MCC also moved classes from the worksite to a Mott Community College location or from a college facility to the worksite, depending on the needs of the participant group.

Objective 7) Workplace productivity is evaluated on a term-by-term basis by each employer.

Unanimously, each company was unable to quantify a change in productivity as a result of the project in the short time of the project. However, each company expressed enthusiasm for the program based on "soft," difficult-to-measure aspects such a higher morale.

Dissemination:

Dissemination efforts provided opportunities such as the Workplace Literacy Project Open House in Lapeer and the state-level conference co-sponsored by Upjohn Institute, for MCC and this project to be highlighted. The lasting benefit of this type of publicity can not be under estimated. Coupled with Project Director Chybowski's state and national speaking engagements, this project has highlighted MCC as a center for Workplace Skills Enhancement and a leader in the field of customized employer responsive training.

A schedule of events follows:

Local Dissemination Activities

Date	Activity
May 1, 1991	Newspaper article - "MCC Grant to Tackle Illiteracy in Workplace," *The Flint Journal*
September 20, 1991	Speech - Rotary Club of Flint - "Basic Skills for Small Companies -11
September, 1991	Magazine article - "MCC Workplace Literacy Project Teaches More Than Reading," *Business to Business*
October 16, 1991	Speech - Goodrich High School, Goodrich, Michigan - "The Role of the Project Director in MCC's Workplace Literacy Project"
November 8, 1991	Interview - WINGS Radio, Lapeer, Michigan
	Radio advertisement recorded - WINGS Radio, Lapeer Michigan - To advertise Open House to celebrate Workplace Literacy Project
November 19, 1991	Open House to announce Workplace Literacy Project in Lapeer
November 19, 1992	Speech - Innovation Council, Flint Michigan - "Basic Skills for Small Companies"

Statewide Dissemination Activities

Date	Activity
November 14, 1991	Speech - Trends Conference, Grand Rapids, Michigan - "Workplace Education in Small and Mid-sized Businesses"
March, 1992	Newsletter article - *Michigan Community College Community Services Association Newsletter*
August 21, 1992	Conference - "Workplace Education in Small and Mid-sized Businesses in Michigan" - Co-sponsored by Mott Community College and The W.E. Upjohn Institute for Employment Research - Hosted by Mott Community College

National Dissemination Activities

Date	Activity
December 3, 1992	Speech - National Community Education Association Conference, Detroit, Michigan Title - "Building Partnerships Between Higher Education and the Business Community to Deliver Basic Skills Training."

Outside evaluation of activities was provided through PURA - U of M-Flint.

This project has served as a pilot and core around which other related projects have been developed such as: Adult Education Alternative Training; team building/synchonous training projects; and customized training with a variety of companies.

WORKPLACE LITERACY PROPOSAL

Computer Aided Instruction in Basic Workplace Skills

May 1, 1991 - October 31, 1992

PERFORMANCE REPORT

Submitted by:

MOTT COMMUNITY COLLEGE
BUSINESS & INDUSTRY TRAINING
711 N. Saginaw, Suite 123, Flint, MI 48503

James J. Chybowski
Project Director

January 15, 1993

PERFORMANCE REPORT

RECIPIENT NAME: C. S. Mott Community College
1401 East Court Street
Flint, Michigan 48503

PROJECT TITLE: National Workplace Literacy Program
Mott Community College Computer
Assisted Workplace Literacy Project

AWARD NUMBER: V198A10048-91

AWARD PERIOD: May 1, 1991 - October 31, 1992

PROJECT DIRECTOR: James J. Chybowski

I. Compare actual accomplishments to the objectives contained in the approved application.

Objective 1) Identify 400 employees of small to mid-sized firms who are in need of basic skills training in order to retain their current jobs or in order to qualify for advancement and/or promotion within their firm. (200 will be identified in Lapeer County as attested to by commitment letters in Appendix A, and 200 identified in Genesee County with the active assistance of the Flint Area Chamber of Commerce and the Metropolitan Chamber of Commerce.)

Number of participants to be served in:

Lapeer County - 200   Genesee County - 200

Lapeer County Companies	Number of Participants Unduplicated
Albar Ind.	51
Durakon Ind.	31
Hydralic Tubes	47
Johnson Control P	61
Johnson Control T	86
Lapeer Metal	3
Trayco	17

Genesee County Companies	Number of Participants Unduplicated
Bargain Bills	1
CMH	7
Dupont	23
Fernco	42
Genesee Pack	22
Johnson Mayhew	1
Lear Seating	50
Lucas Cirtek	26
Pepsi	17
Pioneer	51
Semtron	21
Tuar	8
Troy Design	1

Total: Lapeer 296 Genesee 270

In Lapeer County, we surpassed the objective of 200 participants by serving 296 participants. In Genesee County, we surpassed the objective of 200 participants by serving 270 participants.

Project Director's Note: To have grown from a modest beginning of three companies (Albar Industries, Durakon Industries and Johnson Controls) and 80 participants, to serve 20 companies and 566 participants is a tribute to the quality of this project. It has been Mott Community College's intention to make this project into a program that will be institutionalized by the partnership companies. More than 25% of the companies have inquired about continuing and expanding the basic skills training after the grant is complete. In addition, employers not involved with the grant are asking for basic skills training for their employees. The demand by the automotive industry for their suppliers to provide higher quality at a lower cost is a major reason for many of the inquiries. These companies must upgrade the skills of their workforce to respond to the new technologies, new production methods and new management philosophies. This is very difficult for small to mid-sized companies in these hard economic times.

Objective 2) All 400 employees identified and interested in the program will have a battery of assessment tests administered to them in groups of 25. Lapeer participants will be assessed in Lapeer; Genesee County participants will be assessed at the Mott Community College main campus in Flint.

- 284 employees were assessed using Mott Community College's placement examination. 214 of those tested entered the program as participants.
- 57 employees were assessed using the Tests of Adult Basic Education (TABE). 17 of those tested entered the program as participants.
- 25 employees were assessed using the Myers-Briggs Personality Test. 25 of those tested entered the program as participants.
- All participants were assessed upon entering the program by the instructor during the first class period. A variety of instruments were used.

The type of assessment instrument used depended on the needs of the individual employee, the needs of the employer and the training goals of the business partner. Not all participants were tested prior to entering the program as participants because of the intimidating factor of a group testing situation. The majority of the participants did not reach their full potential in a traditional educational setting.

A testing situation that was traditional in nature only served to heighten their anxiety level and would have kept some participants who truly needed this service from taking full advantage of the program. Some of the business partners recognized this and responded by insisting all employees take the placement exam. Other partners dealt with the situation by asking Mott Community College not to group test but rather to assess participants during the first class session.

The reason for tested participants not entering the program include:

- Test results above the requirements of program
- Work schedule conflicts
- Personal/family schedule conflicts
- Transportation problems

Objective 3) With the assistance of career assessment planner and licensed counselors, each employee/student will develop an individualized training plan in accordance with the workplace needs stated by the employee/student's employer.

Objective accomplished. All 566 participants were counseled on the bases of the assessment tests, and a training plan was developed. In addition, 110 employees were counseled but did not enter the program as participants.

Project Director's Note: In a very real sense, this project touched more than just the 566 people who took full advantage of the program by participating in classes. When you consider that 110 people were assessed and counseled but were unable to take full advantage of the program, the total number of people served by the program would be 676.

Objective 4) Employee/Students will be placed in appropriate classes, customized to the needs of the workplace and individualized to the assessed skills of the employee/student.

This objective was accomplished through site visits made by the project director and instructors, through interviews of employers and employees and by responding to assessment data.

Objective 5) Training is formatively evaluated at mid-point of each training sequence.

Objective accomplished through a written evaluation administered to each participant at the mid-point of each training sequence. Adjustments to the delivery of the curriculum were made in response to this data. Some changes made as a result of the mid-term evaluations include delivering handout materials in a workbook format instead of distributing on a class-by-class basis, and additional classroom materials were added to the curriculum. Some classes requested more site specific curriculum materials. Others requested more indepth information on a particular topic. Curriculum adjustments were made to respond to the expressed needs of the individual class.

Objective 6) Training is summatively evaluated at the end of each training sequence.

Again, the objective was accomplished through a written evaluation survey. Changes made as a result of the final course evaluation include combining closely related curriculums such as communications and human relations into one training sequence. Mott Community College also moved classes from the work site to a Mott Community College location or from a college facility to the worksite, depending upon the response of the participants. The site location varied dependant on the needs of the participant group.

Project Director's Note: The flexibility to respond to appropriate suggestions is what made this program a success. See evaluation of the project done by the Project for Urban and Regional Affairs (PURA), the outside evaluator, for more comments.

Objective 7) Workplace productivity is evaluated on a term-by-term basis by each employer.

Each company involved in the project was asked to provide data relating to productivity and their involvement with the Workplace Literacy Project. Unanimously, each company was unable to quantify a change in productivity as a result of the project in the short time of the project. However, each company expressed enthusiasm for the program based on "soft," difficult-to-measure aspects such as higher morale.

The Manufacturing Operations Manager of Durakon Industries wrote the following: "Your programs, such as problem-solving and communication, offer the necessary tools used by our employees to increase their ability to tolerate, accept and understand individual difference." The Employee Relations Manager of Johnson Control Technologies wrote a letter describing how the classes one of her employees was involved in helped him with some problems he had in his home life.

The purpose of the letter was to comment on the high level of "instruction and interaction happening in the classes, and although the main thrust of the courses may be for workplace use, certainly a happy employee is a productive employee."

Finally, the Corporate Training Coordinator of Albar Industries wrote to describe how a five-year employee of Albar was promoted to Quality Control Inspector as a direct result of her involvement in the math class provided by the Workplace Literacy Project.

These examples point to the fact that though quantifiable data on production improvement is difficult to identify, there exists the consistent belief that the easy to identify "soft" improvements will ultimately lead to quantifiable improvements in production.

Project Director's Note: Copies of the above-mentioned letters can be found in Appendix A of this report.

II. Refer to the schedule of accomplishments and their target dates contained in the approved application and give reasons for slippage in those cases where established objectives were not met. Include any corrective measures taken to correct slippage.

All activities completed as scheduled.

III. For projects involving direct services to individuals, identify the number and characteristics of project participants who complete planned project activities and of those who did not, and the outcomes achieved by participants who completed project activities.

See following demographic charts

VALUE LABEL

AGE

1 = 20-30 years
2 = 31-40 years
3 = 41-50 years
4 = 51+ years

EMPL = EMPLOYER

1 = Albar Industries
2 = Durakon
3 = Johnson Control
4 = Lapeer Metal Products
5 = Bargain Bills
6 = Dupont
7 = Johnson Mayhew
8 = Lucas Cirtek
9 = Tuar
10 = Troy Design
11 = Genesee Packaging
12 = Semtron
13 = Hydraulic Tube & Fittings
14 = Trayco
15 = Johnson Control Tech
16 = Fernco
17 = Pepsi-Cola
18 = Community Mental Health
19 = Lear Seating
20 = Pioneer Cabinetry

SEN = SENIORITY

1 = 1-10
2 = 11-20
3 = 21-29
4 = 30+ years

RACE = ETHNIC BACKGROUND

1 = Native American/Alaska Native
2 = Pacific Islander
3 = Black
4 = Hispanic
5 = White
6 = Other

SEX

1 = Male
2 = Female

ED = EDUCATION

1 = Not a High School Graduate
2 = High School Graduate
3 = Adult High School Graduate
4 = GED
5 = Some College
6 = Associate Degree
7 = Bachelors Degree
8 = Post Grad

SH/H = SINGLE HEAD OF HOUSEHOLD

1 = Yes
2 = No

CLASS = REGISTERED FOR

1 = Communications
2 = Human Relations
3 = Math
4 = Problem Solving
5 = Reading
6 = Writing

COMPLETED = CERTIFICATES GIVEN

1 = Communications
2 = Human Relations
3 = Math
4 = Problem Solving
5 = Reading
6 = Writing

MCC = REGISTERED for ACADEMIC CLASSES AT MOTT

X = Between Fall 1991
through Fall 1992

MOTT COMMUNITY COLLEGE
LAPEER and GENESEE COUNTY PARTNERS
WORKPLACE LITERACY/SKILLS ENHANCEMENT PROJECT
MAY 1991 - OCTOBER 1992
STUDENT DEMOGRAPHICS

S.S.#	CITY	AGE	EMPL	SEN	RACE	SEX	ED	SH/H	CLASSES	COMPLETED	MCC
88-4642	Gr Blanc	1	16	1	5	2	5	2	4	4	
92-1964	Davison	1	20	1	5	1	2	2	1234	13	
84-2061	Flint	1	11	1	5	1	7	2	2	2	
82-8001	Davison	2	15	1	5	2	2	1	124	124	
98-2560	Davison	1	20	1	5	1	2	2	13	13	
94-2053	Davison	1	20	-	5	1	5	2	13	13	
42-0091	Ortonville	3	19	1	5	1	7	2	124	124	
70-2780	Davison	2	17	2	5	2	2	1	124	124	
76-2661	Whitmore	2	19	1	5	1	5	2	124	124	
48-8115	Fostoria	3	13	1	5	1	2	2	12	12	
92-1589	Monroe	1	15	1	5	1	2	2	1		
50-9784	Lapeer	3	15	1	5	1	6	1	12	12	
62-7192	Troy	2	19	1	5	1	7	2	124	124	
42-5228	Flint	3	8	2	3	2	5	1	3456	34	
50-1175	Imlay City	3	13	1	5	2	2	1	12	12	
88-5604	Saginaw	1	11	-	3	1	7	2	2	2	
82-5558	Fostoria	1	15	1	5	2	2	2	12	12	
62-3726	Lapeer	1	15	1	5	2	5	1	12	12	X
74-1549	Lapeer	1	1	1	5	2	5	2	6	6	
86-2058	Lapeer	1	3	1	5	2	1	1	12346	2346	
70-6020	Flint	3	15	1	3	1	2	1	12	12	
87-3776	Birch Run	1	20	1	5	1	3	-	1	1	
64-5041	Metamora	2	15	1	5	2	5	1	1		
76-4049	Lapeer	2	2	1	5	1	4	1	12345	1234	
72-1904	Dryden	2	1	1	5	2	2	2	2	2	
72-0529	Flint	2	8	3	1	2	1	2	36		
54-8032	Applegate	2	2	1	5	1	4	2	146		
98-8139	Lapeer	-	20	1	5	2	2	2	13	13	
46-0686	Burton	2	8	1	5	1	7	2	124		
66-5475	Millington	2	20	1	5	1	1	1	13	3	
96-5898	Gr Blanc	1	20	1	5	1	5	2	13	13	X
36-3489	Flint	4	12	1	5	2	2	2	1	1	
36-5790	Capac	4	13	2	5	1	2	1	12	12	
92-1368	Columbiavi	1	15	1	1	1	2	2	1	1	
72-9482	Burton	2	6	2	5	1	4	2	36	3	

MOTT COMMUNITY COLLEGE
LAPEER and GENESEE COUNTY PARTNERS
WORKPLACE LITERACY/SKILLS ENHANCEMENT PROJECT
MAY 1991 - OCTOBER 1992
STUDENT DEMOGRAPHICS

S.S.#	CITY	AGE	EMPL	SEN	RACE	SEX	ED	SH/H	CLASSES	COMPLETED	MCC
90-7114	Silverwood	1	15	1	5	2	2	1	1	1	
80-9306	Columbiavi	2	1	1	5	1	1	2	2		
30-0223	Eric, PA	4	3	1	5	1	8	1	2	2	
68-0336	Lapeer	2	3	1	5	2	5	2	2	2	
68-8484	Brown City	1	13	1	5	1	7	2	2		
70-2822	Linden	2	6	2	5	1	2	2	56	5	
64-7930	Linden	2	6	2	5	2	3	2	3		
84-7244	Columbiavi	1	1	1	5	2	6	2	2		X
90-2490	Burton	1	2	1	5	1	2	2	34	34	
90-0958	Davison	1	2	1	5	1	2	1	34	34	X
78-1429	Flint	1	20	1	5	1	2	1	36		
62-9581	Mt Morris	2	8	-	3	2	2	1	56		
48-3349	Flushing	3	9	1	5	2	3	2	234	34	
60-2364	Flushing	1	15	1	5	1	5	1	12	12	
80-5757	Lapeer	1	2	1	5	1	2	1	5	5	
40-5177	Lapeer	3	20	1	5	1	7	2	13	1	
58-7846	Oxford	2	13	1	5	2	2	1	12	12	
94-1170	Flint	1	20	1	5	2	5	2	1	1	
84-9096	Davison	1	16	1	5	1	5	2	2	2	
72-1903	Flint	2	8	1	5	2	2	2	3	3	
68-9331	Flint	2	17	1	5	1	2	1	234	3	
74-7748	Clio	2	6	1	5	2	2	2	3	3	
64-0927	Davison	2	1	1	5	2	4	-	1		
88-2284	Manchester	1	15	1	5	1	2	1	1	1	
98-4629	Lapeer	1	15	-	5	1	2	-	1	1	
74-9634	Davison	2	2	1	5	1	1	1	23456	2345	
46-4173	Imlay City	3	13	2	5	2	2	2	12	12	
74-1709	Mt Morris	2	17	2	5	1	1	1	56	56	
38-1134	Imlay City	4	13	2	5	1	2	2	12	12	
68-0831	Corunna	2	19	1	5	1	4	2	124		
48-3748	Washington	3	1	1	5	1	7	1	2		
96-8946	Flint	1	8	3	5	1	2	1	6	6	X
46-9145	Clio	3	17	-	5	1	5	2	124	124	
46-8160	Flint	3	9	-	5	2	2	2	25	25	
70-7154	Columbiavi	1	3	1	5	1	4	1	356	35	

MOTT COMMUNITY COLLEGE
LAPEER and GENESEE COUNTY PARTNERS
WORKPLACE LITERACY/SKILLS ENHANCEMENT PROJECT
MAY 1991 - OCTOBER 1992
STUDENT DEMOGRAPHICS

S.S.#	CITY	AGE	EMPL	SEN	RACE	SEX	ED	SH/H	CLASSES	COMPLETED	MCC
72-2401	Flint	2	15	1	3	1	5	1	1	1	
78-8498	Burton	1	3	1	5	1	1	1	56	56	
58-0077	Burton	2	16	2	5	2	2	2	4	4	
86-2878	Davison	1	3	1	5	1	5	1	2	2	
96-0510	Lapeer	1	2	1	5	1	2	2	3	3	
66-1590	Northville	1	19	1	5	1	7	2	124	124	
70-7146	Columbiavi	2	3	1	5	2	2	2	36	3	X
60-4858	Otter Lake	3	20	1	5	1	5	2	13	13	X
92-0225	Lapeer	1	1	1	5	2	2	1	346	346	
92-1434	Burton	1	11	1	4	2	2	1	2	2	
44-1491	Imlay City	3	14	2	5	1	5	1	3	3	
56-9228	Flint	2	17	2	3	2	5	1	235	3	
84-3568	Flint	1	20	1	5	1	2	1	13	3	
82-3933	Flint	1	15	1	1	1	2	1	13	1	
76-7317	Lapeer	2	15	1	5	1	2	2	124	124	
34-3253	Swartz Ck	4	19	1	5	1	5	2	124	124	
58-5490	Berkley	1	19	1	5	1	8	2	124	24	
46-3649	Metamora	3	14	2	5	1	2	2	46	46	
74-2514	Holly	2	19	1	5	1	5	1	124	124	
72-7392	Durand	2	17	2	5	1	2	2	123456	123456	
48-6144	Flint	3	8	1	5	2	6	1	34	34	
58-6043	Flint	2	11	1	3	2	5	2	2	2	
34-3357	Capac	4	13	3	5	1	1	2	12	12	
52-8527	Burton	3	16	2	5	2	2	1	2	2	
92-2144	Lenord	1	15	1	5	1	2	2	1		
38-9860	Burton	4	4	3	5	2	2	1	3		
50-7461	Lapeer	3	4	2	5	2	2	2	12345	12345	
52-6993	Swartz Cr	3	3	1	5	1	2	1	2	2	
84-7596	Fenton	1	19	1	5	1	3	1	124	124	
52-5308	N Branch	3	13	1	5	1	1	2	2		
70-9061	Davison	2	3	1	5	1	5	2	23	23	
24-9540	Lapeer	2	1	1	5	2	2	2	5	5	
66-2362	Lapeer	1	2	1	5	1	2	2	126	126	
72-2303	Burton	2	19	1	5	1	5	2	124	124	
66-4934	Flint	2	19	1	5	1	2	1	124	124	

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S.S.#	CITY	AGE	EMPL	SEN	RACE	SEX	ED	SH/H	CLASSES	COMPLETED	MCC
82-3160	Goodrich	1	16	1	5	1	2	1	24	24	
48-5292	Lapeer	-	15	1	5	2	3	1	1	1	
02-3740	Davison	1	20	1	5	1	5	1	13	13	
62-4971	Burton	2	8	1	5	1	4	2	3	3	
64-9596	Fenton	3	19	1	5	2	5	2	124	124	
74-1910	N Branch	2	3	1	5	1	2	2	2	2	
94-9848	Flint	1	20	1	5	1	4	1	13	13	
82-8267	Flint	2	16	1	5	2	2	2	4	4	
90-6203	Flint	1	15	1	5	1	2	1	12	12	
84-6237	Imlay City	4	15	1	5	1	1	2	1	1	
86-7140	Lapeer	1	1	1	5	1	5	1	2		
64-4771	Flushing	2	17	1	5	2	2	2	6	6	
54-1906	Swartz Cr	3	16	1	5	1	7	2	2	2	
66-5247	Imlay City	1	15	1	5	1	2	1	12	12	
80-0261	Columbiavi	2	15	1	5	2	2	1	1	1	
76-0043	N Branch	2	2	1	5	1	2	1	45	45	
58-1859	Mt Morris	-	9	1	-	2	5	2	23	3	
64-2351	Fostoria	1	15	1	5	1	5	2	12	12	X
70-9497	Davison	1	16	1	5	1	5	1	2	2	
86-3416	Owosso	1	3	1	5	1	7	2	2	2	
54-3675	Metamora	3	16	-	5	2	5	2	2	2	
54-0584	Durand	3	19	1	5	1	5	1	124	124	
92-3434	Dryden	1	15	1	5	1	2	1	14	14	
58-4449	Davison	2	16	1	5	2	2	2	2	2	
72-9552	Davison	2	15	1	5	1	5	2	1	1	
80-7458	Flint	1	9	1	5	1	1	2	3	3	
86-1073	Gr Blanc	-	16	1	5	1	5	2	2	2	X
42-0386	Howell	3	20	1	5	1	7	2	1	1	
50-5341	Fenton	3	6	3	5	1	2	1	1		X
64-6229	Columbiavi	--	1	1	5	1	4	1	356	3	
42-3968	Imlay City	3	1	1	5	1	4	1	2	2	
30-5568	Flint	4	19	1	-	1	2	2	124	124	
64-7076	Attica	2	3	1	5	1	2	2	2	2	
96-6049	Flint	1	8	1	3	2	2	1	3456	34	
66-7727	----	2	13	1	5	1	2	1	12	12	

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46-9622	Flint	2	6	2	5	2	5	2	12	1	
82-0601	Flint	1	8	4	3	2	2	1	123456	36	X
82-1770	Imlay City	1	15	1	5	2	2	2	12	12	
50-0642	Rochester	3	3	1	5	1	7	2	2	2	
58-0395	Metamora	2	1	1	4	2	5	2	2	2	
29-9261	Lapeer	1	2	1	5	1	2	2	1346	34	
40-1673	Flint	4	19	1	5	1	2	1	124	124	
78-7216	Vassar	3	11	1	5	1	5	2	2	2	
64-4891	Lapeer	2	14	2	5	1	5	2	6	6	
38-4313	Lapeer	4	1	1	5	1	5	2	2		
50-6898	Lapeer	3	3	1	5	2	2	1	235	235	
38-8144	Fenton	4	19	1	5	2	4	1	24	24	
74-5479	Columbiavi	1	3	1	5	1	2	1	136		
74-7478	Brown City	2	15	1	5	1	6	2	12	12	
54-8755	Rochester	3	19	2	3	2	5	1	124	124	
56-9430	Columbiavi	2	1	1	1	2	2	1	26	6	X
52-1941	Almont	4	13	-	-	-	-	1	2		
58-1614	Davison	1	2	1	5	1	2	2	346	346	
58-1631	Lapeer	1	15	1	5	1	7	1	124	124	
74-8240	Berlin Twp	2	13	1	5	1	2	2	2		
48-1430	Flint	3	15	1	5	1	5	2	12	12	
74-8045	Sterling Ht	-	19	-	5	2	8	2	124	124	
50-3828	Lapeer	3	3	1	5	2	2	2	13456	1456	
42-6469	Burton	4	16	2	5	2	5	1	2	2	
56-9817	Flint	2	11	1	5	2	2	2	2	2	
94-2514	Metamora	1	3	1	5	2	2	2	3	3	
82-8534	Burton	1	16	1	5	1	3	2	4	4	
84-5298	Lapeer	1	20	1	5	2	2	2	3		
74-1970	Flint	1	6	1	3	1	5	1	14	14	
60-2551	Almont	2	13	2	5	1	2	2	12	12	
52-9902	Burton	2	3	1	5	1	5	2	2	2	
25-4236	Flint	1	20	1	4	1	4	1	135	13	
88-1931	Canton	1	15	1	5	1	6	2	124	124	
84-5946	Brighton	1	15	1	5	1	7	2	1	1	

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S.S.#	CITY	AGE	EMPL	SEN	RACE	SEX	ED	SH/H	CLASSES	COMPLETED	MCC
90-1051	Davison	1	3	1	5	1	2	2	56		
52-5456	Detroit	3	3	1	5	2	8	2	2	2	
82-3568	Davison	1	15	1	5	1	5	1	12	12	X
42-5434	Lapeer	3	2	1	5	1	2	2	124	124	
78-0116	Lapeer	1	15	1	5	2	2	1	1	1	
70-6513	Columbiavi	1	2	1	5	1	2	2	4		
76-0228	Flint	1	8	2	4	1	2	2	36	36	
98-8193	Flint	1	15	1	5	1	2	1	14	1	
36-2190	Swartz Ck	4	16	2	5	1	6	2	4	4	
66-8018	Birch Run	2	5	1	5	1	2	2	35	3	
90-6670	Mt Morris	1	1	1	5	1	2	2	2		
90-5978	Columbiavi	1	16	1	5	2	2	1	4	4	
44-6779	Romeo	3	3	1	5	2	7	1	2	2	
58-3629	Lapeer	3	15	1	5	1	5	1	12	12	
86-0601	Flint	1	11	1	5	2	6	2	2	2	
82-0236	Vassar	1	6	1	5	2	5	2	4	4	X
66-2432	Flint	2	8	1	3	2	2	1	124		X
34-1928	Gr Blanc	4	20	1	5	2	3	1	13	13	
76-7793	Almont	1	1	1	5	1	5	2	2		
84-5019	Lapeer	1	2	1	5	1	2	2	34	3 ?	
50-5042	Montrose	3	17	2	5	1	2	2	12	12	
42-8474	Montrose	3	17	2	5	2	2	2	12	12	
25-5129	Davison	1	20	1	4	1	2	2	13	13	
88-8664	Attica	1	20	1	5	1	2	1	13	13	
88-973	N Branch	1	3	1	5	1	5	-	1	1	
70-5062	Flint	2	11	1	3	1	5	2	2	2	
70-9651	Flint	2	15	1	3	1	2	2	12	12	
48-9457	Flint	3	19	1	5	1	5	2	24	24	
74-0911	Burton	2	6	2	5	2	2	1	34		X
78-6490	Lapeer	1	3	1	5	1	2	1	456	456	
46-1076	Flint	3	12	1	3	2	2	2	1	1	
82-2718	Lapeer	1	15	1	5	2	2	1	1	1	
76-6989	Flint	1	19	1	5	1	5	1	24	24	X
76-3147	Lapeer	2	15	1	5	1	5	2	1	1	
70-3241	Linden	3	19	1	5	1	2	1	124	124	

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S.S.#	CITY	AGE	EMPL	SEN	RACE	SEX	ED	SH/H	CLASSES	COMPLETED	M
72-5201	Lapeer	1	13	1	5	1	2	-	12	12	
90-7258	Davison	1	16	1	5	1	5	1	2	2	
58-0898	Romeo	2	13	-	5	1	1	1	12	12	
82-8647	WhitmoreLk	1	15	1	5	1	5	1	12	12	
72-7317	Flint	1	9	1	2	1	2	2	56	5	
84-6716	Flint	1	16	1	5	1	6	2	4	4	
58-4443	Otisville	2	14	2	5	1	2	2	56	56	
90-7185	Capac	1	13	1	5	1	2	1	12	12	
64-7344	Flint	2	12	1	5	1	7	2	1	1	
72-1199	Burton	2	18	1	5	2	5	1	123456	123456	
40-1057	Lapeer	3	20	1	5	2	7	1	1	1	
74-5336	Lapeer	2	1	1	5	1	7	2	1		
28-0546	Dryden	4	13	1	5	1	2	2	12		
52-3827	Holly	1	15	1	5	2	2	2	1	1	
86-0320	Holly	1	19	1	5	1	5	2	124	124	
72-9998	Davison	2	16	2	5	1	5	1	2	2	
78-0910	Fenton	2	19	3	5	1	5	1	124	124	
48-7482	Fenton	2	19	1	5	1	8	2	124	124	
66-2516	Lapeer	2	2	1	5	1	1	1	13456	4	
78-3311	Lapeer	1	15	1	5	2	5	1	12	12	
62-8024	Lapeer	2	15	1	5	2	6	1	1	1	
64-6317	Flint	2	8	1	5	1	4	2	3456	34	
48-3390	Flint	3	6	3	3	2	2	1	3		
82-5524	N Branch	1	15	1	5	1	5	1	12	12	
46-6700	Manchester	2	15	1	5	1	5	2	1		
58-0330	Flint	2	8	3	3	2	3	1	1246	46	
32-7563	Almont	4	13	2	5	2	1	1	12	12	
58-8757	Fenton	2	19	1	5	2	5	2	124	124	X
78-0787	Imlay City	2	13	1	5	1	2	1	12	12	
92-3005	Lapeer	1	15	1	5	2	5	1	1	1	
62-3911	Columbiavi	2	13	2	5	1	2	2	12	12	
94-6315	Imlay City	1	15	1	5	1	2	1	124	124	
82-5452	Gr Blanc	3	11	1	3	2	5	1	2	2	
64-8622	-------	1	8	1	5	2	2	1	3456	3	X
76-1275	Frankenmut	2	1	1	5	1	5	2	2		

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.S.#	CITY	AGE	EMPL	SEN	RACE	SEX	ED	SH/H	CLASSES	COMPLETED	MCC
66-2011	Flint	1	12	1	5	1	5	2	1	1	
66-7953	Flint	1	12	1	5	2	7	2	1	1	
52-5352	Romeo	2	13	1	5	1	8	2	2		
82-8475	Mt Morris	2	6	1	3	2	5	1	3	3	
74-1391	N Branch	2	3	1	5	2	2	2	23	2	
68-8576	Flint	2	11	1	3	2	5	1	2	2	
04-6627	Clifford	1	14	1	5	1	2	2	134	134	
82-8935	Flint	1	8	1	3	1	5	1	356	356	
76-2647	Columbiavi	2	14	1	5	1	2	2	356	35	
80-6940	Lapeer	1	1	1	5	1	3	2	2	2	
60-1813	Lapeer	1	15	1	5	1	2	1	124	124	
74-7837	Davison	2	16	2	6	1	2	2	4	4	
58-0328	Davison	2	16	1	5	2	5	2	2	2	
84-3713	Flint	2	12	1	5	2	2	2	1	1	
40-1631	Troy	3	3	1	5	1	5	2	2	2	
72-8435	N Branch	2	15	1	5	2	2	2	1	1	
72-8480	Gr Blanc	3	17	2	3	1	2	2	123456	35	
86-6119	Davison	1	1	1	5	1	2	1	2		
11-9729	Gr Blanc	2	15	1	5	1	2	2	1		
66-9189	Lapeer	2	14	2	5	1	2	2			
70-2202	Flint	1	6	2	5	1	2	1	23	23	
44-8897	N Branch	3	2	1	5	1	5	2	123456	123456	
84-6408	Attica	1	1	1	5	1	5	2	2		
68-9671	Otisville	2	17	1	5	1	5	2	3	3	X
82-1750	Davison	1	1	1	5	1	7	1	6	6	
78-0041	Flint	2	11	3	5	2	2	1	2	2	
68-7067	Davison	1	15	1	5	2	5	1	1		
76-4723	Flint	1	15	1	5	1	7	2	124	124	
92-7682	Millington	1	15	1	5	1	2	2	14	14	
74-2983	Flint	2	12	1	5	1	5	2	1	1	
48-3243	Columbiavi	3	14	2	-	1	2	2	3		
80-6092	Davison	2	3	1	5	1	2	1	2356	2	
66-2770	Flint	2	20	1	5	1	2	2	13	13	
06-2852	Lapeer	1	20	1	5	1	5	2	135	135	
92-1868	Flint	-	20	1	3	2	2	1	13	13	

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S.S.#	CITY	AGE	EMPL	SEN	RACE	SEX	ED	SH/H	CLASSES	COMPLETED	MCC
78-0713	Flint	2	15	1	3	1	2	1	1	1	
86-4256	Davison	1	16	1	5	1	6	2	4	4	
40-9399	Flint	4	15	1	5	1	2	1	1	1	
46-2744	Flint	3	11	1	5	2	7	2	2	2	
44-6156	Fostoria	2	1	1	5	1	5	2	12		
44-3610	Flint	3	8	1	5	2	5	1	124	124	
56-5035	Metamora	3	1	2	5	1	5	1	12		
88-2783	N Branch	1	3	1	5	2	2	2	124	2	
90-7914	Silverwood	1	15	1	5	2	5	2	1	1	
86-3198	Mayville	1	3	1	5	1	2	2	2	2	
66-1183	Flint	2	2	1	5	1	2	-	35	35	
52-1655	Flint	3	11	1	5	2	5	2	2	2	
72-5225	Ypsilanti	2	15	1	3	2	-	1	1	1	
62-6095	Flint	2	15	1	3	1	5	1	14	14	
72-8608	Davison	2	6	2	5	2	2	2	3		
72-6479	N Branch	1	14	2	5	1	2	2	123456	23456	
72-4916	Lapeer	2	16	1	5	2	2	2	4	4	
70-3505	Lapeer	-	1	1	5	1	7	2	2		
84-5614	Burton	2	16	1	5	1	1	1	2	2	
72-5197	Swartz Cr	2	19	1	5	1	7	2	124	124	
74-9946	Davison	2	1	1	5	2	5	2	2		
82-3275	Davison	2	3	1	5	1	5	1	2	2	
44-5031	Mt Clemens	3	15	1	5	1	2	2	12	12	
66-0632	Columbiavi	2	1	1	5	1	1	1	2		
60-6444	Dryden	2	1	2	5	1	5	2	1		
82-3347	Burton	2	20	1	5	2	2	1	13	13	
42-4562	Burton	3	6	-	3	2	5	1	3	3	
74-5605	Davison	1	15	1	5	2	2	1	1	1	
74-8116	Durand	2	19	1	5	1	4	2	124	124	
78-7904	Auburn	2	11	1	5	1	7	2	2	2	
58-2007	Clio	3	12	1	5	2	5	-	1	1	
82-7947	Lapeer	2	20	1	5	1	2	2	13	13	
82-7682	Oxford	1	1	1	5	1	7	2	6		
42-2690	Imlay City	3	1	1	5	1	8	2	1		
32-7980	Allenton	4	13	1	5	1	1	1	12	12	

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S.S.#	CITY	AGE	EMPL	SEN	RACE	SEX	ED	SH/H	CLASSES	COMPLETED	MCC
70-4966	Caro	1	15	1	5	1	5	2	1	1	
40-2597	Davison	4	16	2	5	2	1	1	2	2	
74-5775	Oak Park	2	19	1	3	2	7	1	124	124	
60-0928	Flint	2	20	1	5	1	2	2	13	13	
96-9918	N Branch	1	20	1	5	1	2	2	13	13	
92-0615	Montrose	1	20	1	5	1	6	1	1	1	
48-8987	Lapeer	2	3	1	5	1	2	2	2	2	
76-4638	Lapeer	1	1	1	5	1	5	1	2	2	
72-4378	Lapeer	1	20	1	5	1	2	-	3		
72-0315	Davison	2	16	1	5	2	5	2	2	2	
52-7401	Highland	4	19	1	5	1	2	1	124	124	
82-0382	Linden	1	19	1	5	1	5	2	124	124	
60-9988	Linden	1	19	1	5	2	6	2	124		
70-0991	Almont	1	13	1	5	1	2	1	2		
90-8813	Chesaning	1	12	3	5	2	5	2	1	1	
54-0980	Oxford	3	15	1	5	2	4	2	1	1	
72-0054	Otisville	1	16	1	5	1	2	1	4	4	
02-6006	Lapeer	1	20	1	5	1	5	2	13	13	
70-9748	Lapeer	1	3	1	5	1	5	2	6	6	
74-6985	Flint	3	11	1	3	2	2	2	2	2	
74-2710	Fostoria	2	15	1	5	1	5	2	1	1	
74-9216	Lapeer	1	3	1	5	2	4	1	124	124	
60-9486	Lapeer	1	20	1	5	1	1	1	123456	13	
66-6267	Davison	1	19	1	5	2	5	2	124		
96-2750	Imlay City	1	13	1	5	1	2	1	12	12	
78-0773	Davison	1	3	1	5	1	3	1	2	2	
58-6096	Flint	3	18	1	3	1	1	2	356	356	
82-8380	Caro	1	15	1	5	1	2	1	1	1	
86-9968	Lapeer	1	2	1	5	1	2	2	3	3	
68-8456	Davison	1	1	1	5	2	2	2	2		
54-6880	Davison	1	1	1	5	1	5	2	2		
60-0627	Swartz Cr	2	12	1	5	1	6	2	1	1	
68-9107	Swartz Cr	2	12	1	5	2	5	2	1	1	
50-3514	Capac	3	13	2	5	1	1	1	2		

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S.S.#	CITY	AGE	EMPL	SEN	RACE	SEX	ED	SH/H	CLASSES	COMPLETED	MCC
62-1454	Flint	2	2	2	3	2	5	1	35	35	
70-3501	Lapeer	2	1	1	5	2	2	2	2		
42-3166	Imlay City	4	13	1	5	2	2	2	12	12	
34-0324	Imlay City	4	13	1	5	1	3	2	12	12	
86-1494	Flint	1	8	3	5	1	2	1	5	5	
72-1472	Fenton	2	19	1	5	1	5	1	124		
26-7994	Bloomfield	4	13	1	5	1	7	1	2		
50-1569	N Branch	2	15	1	5	2	4	2	12	12	
32-6254	Mt Morris	4	2	3	3	2	5	2	12345	12345	
80-4367	N Branch	2	2	1	5	1	4	1	12345	345	
56-6319	Memphis	3	13	2	5	2	2	2	2		
64-8427	Howell	2	19	1	5	1	5	2	124		
84-5691	Burton	1	20	1	5	1	1	1	13	13	
68-7886	Flint	2	10	1	5	2	2	1	1234	1234	
72-2726	Burton	2	16	2	5	1	5	1	12	12	
66-4263	Washington	1	13	1	5	1	5	1	2	2	
80-5731	Flint	2	8	1	3	1	2	1	1456	5	
54-1488	Lapeer	3	14	2	5	1	3	1	26	2	
50-7621	Mt Morris	3	8	1	5	2	2	1	1236	236	
86-0624	N Branch	1	1	1	5	2	2	2	2		
76-6482	Flint	1	2	1	3	1	2	1	156		
76-9592	Lapeer	2	1	1	5	1	2	2	2		
96-0678	Saginaw	2	1	1	2	1	8	2	12		
64-7560	Flint	3	11	2	3	1	2	2	2	2	
36-8130	Gr Blanc	4	6	3	5	2	5	2	235	235	
70-8345	Lapeer	2	16	1	5	2	2	2	4	4	
70-1955	Lapeer	2	3	1	5	1	2	2	123456	123456	
70-3000	Lapeer	2	15	1	5	2	2	2	1	1	
52-7662	Lapeer	3	3	1	5	2	2	2	34	34	
68-2093	-----	1	19	1	5	2	7	2	124	124	
66-9103	Lapeer	1	1	1	5	1	5	2	236	36	
56-4859	Rochester	2	1	1	5	1	7	2	1		
66-9630	Flint	2	11	1	5	1	2	1	2	2	
42-3450	Flint	4	9	1	5	2	4	2	23	23	
94-4055	Swartz Cr	1	2	1	5	1	2	2	1	1	

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S.S.#	CITY	AGE	EMPL	SEN	RACE	SEX	ED	SH/H	CLASSES	COMPLETED	MCC
52-1417	Flint	3	2	1	5	2	5	1	2	?	
84-7651	Davison	1	2	1	1	1	2	1	45	5	
84-1607	Davison	1	2	1	5	1	5	2	4		
64-7400	Flint	1	19	1	5	1	2	2	124		
78-0634	Davison	2	15	1	5	1	1	1	1	1	
52-2039	Swartz Cr	--	2	1	5	2	6	2	1	1	
88-2357	Linden	2	19	1	5	2	5	2	124	124	
72-9453	N Branch	4	3	1	-	2	3	2	56	56	
66-3362	Imlay City	1	1	-	5	1	5	2	2		X
80-6908	Imlay City	1	1	1	5	2	2	2	2		
70-6639	Burton	2	19	1	5	1	5	1	124		
80-0783	Kingston	1	1	1	5	1	2	1	25		
58-1037	Davison	2	16	2	5	1	2	2	4	4	
78-2998	Flint	2	2	1	5	2	5	1	3	13	
48-8815	Davison	3	16	2	5	2	3	2	2	2	
30-1182	Flint	4	18	1	5	2	3	2	356		
17-1059	Flint	2	18	1	3	2	6	1	1246		
70-8609	Flint	2	8	1	3	2	2	-	46		
56-5290	Flint	3	2	2	3	2	6	1	124		
78-3524	Flint	1	20	1	5	2	5	2	13	13	
76-4480	Columbiavi	2	15	1	5	2	6	2	12	12	
68-9309	Otisville	2	3	1	5	1	4	1	123456	123456	
55-9938	Lum	1	15	1	5	1	2	2	1	1	
48-7401	Flint	3	17	2	5	2	5	1	3	3	
70-9333	Lapeer	2	13	2	5	1	2	1	12	12	
60-9705	Saginaw	2	11	1	3	2	2	2	2	2	
81-2710	Ann Arbor	1	15	1	5	1	2	1	1	1	
82-7112	Ypsilanti	1	19	1	5	1	6	2	124	24	
46-6267	Flint	2	17	2	5	1	6	2	12	12	
28-1600	Lapeer	4	15	1	5	2	6	2	12	12	
58-5461	Marlette	3	13	1	5	1	7	1	12	12	
48-3181	Vassar	3	14	1	5	1	2	2	3	3	
70-9502	Columbiavi	1	2	1	5	1	1	-	45	45	
68-6841	Romeo	2	13	1	5	1	2	1	12	12	
42-1605	Mt Morris	3	2	4	5	1	2	2	35	5	

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S.S.#	CITY	AGE	EMPL	SEN	RACE	SEX	ED	SH/H	CLASSES	COMPLETED	MCC
70-8164	Columbiavi	2	14	2	5	1	2	2	3	3	
72-6863	Lapeer	1	3	1	5	1	2	1	2	2	
54-3634	Flint	3	8	1	3	1	5	2	56	56	
98-4582	----	1	15	1	5	1	5	1	1	1	
58-9829	Allenton	2	13	-	5	2	2	2	12	12	
50-4851	Allenton	3	13	1	3	1	2	-	12	12	
76-6687	Flint	-	18	-	3	1	-	-	56		
66-5180	Lapeer	2	2	1	5	2	2	1	34		
52-5356	Flint	3	14	1	5	2	1	1	1	1	
40-2471	N Branch	4	13	2	5	1	1	1	2	2	
74-1169	N Branch	1	13	1	5	1	2	2	2		
70-6915	N Branch	2	13	2	5	1	5	2	12	1	
82-4726	Lapeer	1	1	1	5	1	7	2	12		
62-2598	Columbiavi	2	14	2	5	1	2	2	1		
88-7300	Lapeer	1	3	1	5	1	5	1	124	12	
54-5388	Brighton	2	19	1	5	1	7	2	124		
80-7823	Chesaning	2	12	-	5	1	2	2	1	1	
44-7658	Attica	3	1	1	5	1	5	2	12	2	
60-9842	Capac	2	13	1	5	1	2	2	2	2	
72-9307	Lapeer	1	1	1	5	1	5	1	2		
90-6094	Mt Morris	1	8	1	3	1	5	2	3		
70-5479	Lapeer	2	2	1	5	1	2	1	136		
04-7276	Lapeer	1	2	1	5	1	2	2	6	6	X
72-5913	Lapeer	2	2	1	5	1	2	2	34	34	X
48-6226	Davison	--	3	1	5	2	2	1	2	2	
88-8725	Otisville	1	16	1	5	2	2	2	4	4	
52-3162	Flint	3	12	2	5	1	7	2	1	1	
88-0171	Davison	1	16	1	5	1	5	1	4	4	
74-5435	Otterlake	1	3	1	5	1	2	2	134		
58-5508	Davison	2	14	1	5	2	2	2	3	3	
56-1476	Kingston	3	1	1	5	2	2	1	136	136	
76-2567	Gr Blanc	1	20	1	5	1	2	2	13	13	
76-1370	Flint	1	18	1	3	2	2	2	356	36	
76-6050	Swartz Cr	1	12	1	5	2	7	2	1	1	
72-6168	Walled Lk	2	19	1	5	1	5	1	124	124	

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S.S.#	CITY	AGE	EMPL	SEN	RACE	SEX	ED	SH/H	CLASSES	COMPLETED	MCC
48-4243	Davison	3	16	2	5	2	2	2	2	2	
72-7346	Flint	2	11	1	5	1	1	2	2	2	
86-0936	Flint	1	16	1	5	1	5	2	2	2	
44-5392	Lapeer	3	3	1	5	2	1	2	6		
58-2961	Columbiavi	1	1	1	5	1	2	1	12	1	
38-4560	Clio	4	2	3	5	1	2	2	12	12	
64-4156	Lake Orion	2	15	1	5	2	2	2	1	1	
90-0008	Lapeer	1	15	1	5	2	7	1	1	1	
86-5301	Corunna	--	11	1	5	2	7	2	2	2	
74-0166	Burton	-	15	1	5	2	2	2	12	12	
74-0032	Flint	2	9	-	5	1	2	-	2	2	
76-2322	Gr Blanc	2	20	1	5	1	5	2	123	13	
66-4414	Flint	2	8	1	3	1	5	1	3	3	
78-8024	Flint	2	16	1	5	1	2	2	4	4	
60-2350	Davison	2	16	2	5	2	5	2	2	2	
76-4390	Flint	1	19	1	5	1	2	2	124		
33-8176	Flint	1	20	1	5	1	7	2	123	13	
78-3836	Waterford	2	3	1	5	1	5	2	13456	1	
54-6633	Davisburg	3	19	1	5	1	8	1	124		
36-8383	Otterlake	4	16	2	5	1	2	2	4	4	
72-0868	Davison	2	3	1	5	2	5	1	2	2	
74-6126	Otterlake	2	15	1	5	1	2	1	1	1	
76-3667	Burton	1	3	1	5	2	5	2	23	2	
68-6073	Flint	1	15	1	3	2	5	1	1	1	
26-6045	Brown City	4	13	1	5	1	5	2	2		
54-5090	Attica	3	3	1	5	1	6	2	2	2	
62-4234	N Branch	2	3	1	5	2	2	1	234	234	
58-1646	Lapeer	2	3	2	5	1	5	2	2	2	
78-5325	Lapeer	1	3	1	5	1	5	-	2	2	X
78-2952	Fostoria	1	3	1	5	1	5	2	16	16	
96-3768	Columbiavi	1	20	1	5	1	5	2	13	13	
88-6094	Columbiavi	1	2	1	5	1	5	1	24	2	
36-9920	Columbiavi	4	1	1	5	1	2	1	12		
74-0159	Flint	2	8	2	5	2	5	1	12456	6	X
88-3831	Flint	1	20	1	1	1	2	2	12346	13	

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S.S.#	CITY	AGE	EMPL	SEN	RACE	SEX	ED	SH/H	CLASSES	COMPLETED	MCC
58-5382	Fostoria	2	15	1	5	1	2	2	1	1	
25-8067	-------	2	8	1	3	2	2	1	3456	3	
76-3004	Wayne	2	15	1	5	1	5	1	12	12	
86-2375	Davison	1	3	1	5	2	5	1	34	34	
76-1845	Lapeer	2	14	2	5	1	2	1	34	34	
90-8707	Flint	1	12	1	5	1	2	2	1	1	
02-7190	Flushing	1	12	1	5	1	2	2	1	1	X
64-5331	Gr Blanc	2	2	1	4	2	2	2	3		
72-9443	Burton	2	18	1	5	2	2	-	356	??	
50-7345	Gr Blanc	3	2	3	5	1	5	1	56	56	X
64-7594	Imlay City	2	13	1	5	2	1	2	12	12	
02-4277	Bancroft	1	20	1	5	1	5	1	13	13	
78-7138	Goodrich	1	20	1	5	2	7	2	1		
68-9854	Montrose	1	12	2	5	1	5	1	1	1	
96-3397	Flint	1	20	1	5	2	3	1	3		
56-1710	Otisville	2	20	1	5	2	2	2	1	1	
52-0805	Flint	3	9	1	5	2	5	1	2	2	
42-6761	Imlay City	3	13	1	5	2	2	2	12	12	
72-2276	Davison	1	3	1	5	2	5	1	123		
82-5285	Davison	1	16	1	5	1	6	2	4	4	
50-8768	Flushing	3	20	1	5	1	5	-	1	1	
74-6660	Columbiavi	1	3	1	5	2	2	2	1356	1356	
96-9631	Flint	1	20	1	5	1	2	2	13	13	
76-0757	Flint	1	20	1	5	1	2	2	13	13	
88-9831	Davison	1	3	1	5	1	2	1	2	2	
84-8269	Davison	1	3	1	-	1	2	2	3		
60-0188	Imlay City	2	1	1	5	2	2	2	236	36	
72-8443	Flint	2	19	1	5	1	2	1	124	124	X
02-8655	Flint	1	12	1	5	1	5	1	1	1	
70-8588	Flint	1	1	1	4	1	5	2	2		
74-9801	Lapeer	1	3	1	5	2	2	2	1234	1234	
72-8165	Lapeer	2	15	1	5	1	2	1	12	12	
60-4762	Flint	1	19	1	5	1	2	1	124		
80-7249	Lum	1	15	1	5	1	2	2	1	1	
44-1288	Burton	3	17	2	4	2	5	2	123	123	

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S.S.#	CITY	AGE	EMPL	SEN	RACE	SEX	ED	SH/H	CLASSES	COMPLETED	MCC
58-2941	Burton	2	17	2	5	1	2	2	1256	12	
58-4720	Davison	2	16	2	5	2	2	2	2	2	
78-8262	Davison	2	16	2	5	2	6	2	4	4	
36-8282	Dryden	4	13	1	5	1	2	1	12	12	
66-5293	Burton	2	2	1	5	1	5	2	356	56	X
40-6769	Flint	3	17	2	3	2	2	1	356	356	X
64-3673	Flint	2	2	1	3	1	2	-	56	56	
76-7247	N Branch	2	14	2	5	1	1	1	56	56	
76-3392	Davison	2	3	1	5	2	1	2	35	3	
42-9875	Imlay City	4	1	1	5	1	6	2	6	6	
80-2416	Gr Blanc	1	19	1	5	1	6	2	124	124	
44-0016	Romulus	3	19	1	5	1	4	1	124	24	
74-6117	Romeo	2	15	1	5	1	5	2	1	1	
62-9550	Davison	2	16	2	5	2	5	1	2	2	
56-1428	Berville	2	3	1	5	1	5	1	2	2	
84-3297	Swartz Cr	1	7	1	5	2	5	1	1234	12	
84-2882	Swartz Cr	1	19	1	5	1	5	1	124	124	
74-4462	Burton	2	20	1	5	1	2	2	13	13	
58-4198	Lapeer	3	13	1	5	2	7	1	12	12	
88-4811	Flint	1	12	4	3	1	5	2	1	1	X
70-3476	Lapeer	2	15	1	5	2	2	1	1	1	
50-4907	Flint	3	4	3	5	2	3	1	36	36	
76-1514	Imlay City	1	13	1	5	1	1	1	12	12	
48-4925	Flushing	3	2	1	5	1	2	2	36		
34-5971	Flint	4	11	1	5	2	5	1	2	2	
80-8517	Flint	2	19	1	5	2	7	1	124	124	
78-5879	Bellville	1	15	1	5	1	5	2	12	12	
80-2897	Flint	1	2	1	5	2	1	1	36	3	
50-0765	Swartz Ck	3	16	1	5	2	2	2	4	4	
74-7631	Flint	1	15	1	5	1	5	2	14	1	
42-9474	Imlay City	4	15	1	5	2	2	2	1	1	
02-7167	Swartz Cr	1	20	1	5	1	5	2	13	13	
02-7027	Swartz Cr	1	20	1	-	1	5	2	13	13	
34-2479	Capac	4	13	1	5	1	1	2	12	12	
40-9301	N Branch	3	3	1	5	1	7	2	2	2	

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S.S.#	CITY	AGE	EMPL	SEN	RACE	SEX	ED	SH/H	CLASSES	COMPLETED	MCC
64-8971	Silverwood	2	15	1	1	1	4	2	1	1	
48-9709	Lapeer	2	3	1	5	2	5	2	2	2	X
70-8238	Swartz Cr	2	19	1	5	1	7	2	124	24	
76-0268	Flint	1	11	1	3	2	6	2	2	2	
48-8813	Lapeer	3	1	1	5	2	5	1	2		
40-2623	N Branch	3	13	3	5	1	2	2	2		
98-2447	Clio	1	20	1	5	2	2	2	13	13	
72-2911	Lapeer	2	3	1	1	1	2	1	2	2	

LAPEER and GENESEE COUNTY PARTNERS
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COMPOSITE SUMMARY

	NUMBER OF STUDENTS
AGE	
20-30 years	214
31-40 years	197
41-50 years	98
51+ years	41
No Response	16
EMPLOYER	
Albar Industries	51
Durakon	31
Johnson Control	61
Lapeer Metal Products	3
Bargain Bills	1
Dupont	23
Johnson Mayhew	1
Lucas Cirtek	26
Tuar	8
Troy Design	1
Genesee Packaging	22
Semtron	21
Hydraulic Tube/Fittings	47
Trayco	17
Johnson Control Tech	86
Fernco	42
Pepsi-Cola	17
CMH	7
Lear Seating	50
Pioneer Cabinetry	51
SENIORITY	
1-10	472
11-20	67
21-29	13
30+ years	1
No Response	13
ETHNIC BACKGROUND	
Native American/ Alaska Native	9
Pacific Islander	3
Black	50
Hispanic	8
White	488
Other	1
No Response	7

	NUMBER OF STUDENTS
SEX	
Male	360
Female	205
No Response	1
EDUCATION	
Not a High School Grad	34
High School Graduate	247
Adult High School Grad	18
GED	21
Some College	164
Associate Degree	26
Bachelors Degree	44
Post Grad	9
No Response	3
SINGLE HEAD OF HOUSEHOLD	
Yes	220
No	328
No Response	18
CLASSES (Registered for)	
Communications	303
Human Relations	301
Math	151
Problem Solving	155
Reading	70
Writing	85
COMPLETED (Certificate)	
Communications	251
Human Relations	231
Math	119
Problem Solving	121
Reading	44
Writing	46
MCC (Attended College) between Fall 1991 through Fall 1992	
X	32
TOTAL STUDENT COUNT:	**566**

IV. Report on any dissemination activities.

Ongoing dissemination activities outside the scope of the grant are bolded. These show Mott Community College's commitment to Workplace Literacy.

Local Dissemination Activities

Date	Activity
May 1, 1991	Newspaper article - "MCC Grant to Tackle Illiteracy in Workplace," *The Flint Journal* - Copy of article appears in Appendix B
September 20, 1991	Speech - Rotary Club of Flint - "Basic Skills for Small Companies"
September, 1991	Magazine article - "MCC Workplace Literacy Project Teaches More Than Reading," *Business To Business* - Copy of article appears in Appendix B
October 16, 1991	Speech - Goodrich High School. Goodrich, Michigan - "The Role of the Project Director in MCC's Workplace Literacy Project" - Copy of confirmation letter in Appendix B
November 8, 1991	Interview - WINGS Radio, Lapeer, Michigan
	Radio advertisement recorded - WINGS Radio, Lapeer Michigan - To advertise Open House to celebrate Workplace Literacy Project - Text of advertisement in Appendix B
November 19, 1991	**Open House to announce Workplace Literacy Project in Lapeer - Copy of invitation in Appendix**
	Speech - Innovation Council, Flint, Michigan - "Basic Skills for Small Companies"

Statewide Dissemination Activities

Date	Activity
November 14, 1991	Speech - Trends Conference, Grand Rapids, Michigan - "Workplace Education in Small and Mid-sized Businesses" - Copy of conference program in Appendix B

Date	Activity
March, 1992	Newsletter article - *Michigan Community College Community Services Association Newsletter* - Copy in Appendix B
August 21, 1992	Conference - "Workplace Education in Small and Mid-sized Businesses in Michigan" - Co-sponsored by Mott Communi9XCollege and The W. E. Upjohn Institute for Employment Research - Hosted by Mott Community College - Copy of Invitation and Program in Appendix B

National Dissemination Activities

Date	Activity
December 3, 1992	**Speech - National Community Education Association Conference, Detroit, Michigan** **Title - "Building Partnerships Between Higher Education and the Business Community to Deliver Basic Skills Training." Copy of conference program in Appendix B**

V. Report on evaluation activities.

As noted in section one under the Objectives 5 and 6 related to mid-point and summary evaluation and Objective 7 related to employer partner productivity, the project conducted written and oral evaluations with all employee participants and many personnel representatives from partnership companies.

In addition to these formative and summary evaluation tools utilized by project personnel, an outside evaluation agency, the Project for Urban and Regional Affairs (PURA) of the University of Michigan-Flint was hired under this grant to provide third-part evaluation services. While the final evaluation report attached to this document presents their findings and comments, early evaluation activities were delayed by considerable misunderstandings and communication difficulties.

The very strengths of the project, flexible class times and locations, specialized and customized training modules and adaptation to employee and employer needs at training mid-point made full implementation of PURA's evaluation design difficult. The format PURA initially developed for analysis of demographic, enrollment, progress and attainment data was predicated on a standard academic configuration. Modifications needed to be made to accommodate the actual field implementation conditions of this project.

The evaluation design related to Objective 7, employer partner productivity, was overly ambitious for the small to mid-sized firms targeted by this proposal. Many firms did not have the internal capacity to collect or report the productivity data requested. Additionally, CEOs, who is some cases also function as personnel departments and line managers, saw little value in expanding their internal operations to accommodate the demands of academicians.

These difficulties in implementing the evaluation design were exacerbated by frustrations resulting from differing understandings of the underlying concepts of the project and timelines based upon the standard academic calendar. For instance, original data evaluation and collection designs were based upon University of Michigan-Flint semesters and unrelated to business partner production shifts or seasonal schedules. Also, evaluators placed a high emphasis on collection of data at any cost, while project personnel were concerned with keeping participants in the program and overcoming barriers to participation. Many of the adult learners involved in this program had histories of unsuccessful academic attempts. These bad past experiences needed to be overcome before full benefit of the program could be derived. Flexibility and confidentiality were of high importance in making these workers comfortable in classroom settings.

After much discussion, these frustrations and difficulties were overcome, however, the confusion resulted in the project manager spending many more hours than originally projected with the evaluation team clarifying the objectives, timelines and date related to the implementation of the project as funded.

VI. Report on any changes in key personnel.

As originally designed, this project was to be directed by Dr. Mary Fifield, Vice President of Academic Affairs, with a four-person Project Management Team made up of Marguerite Fordyce, Director of Business and Industry Training; William C. Mitchell, Director of Guidance Services and Counseling; Dr. Mary Pine, Dean of Arts and Humanities; and Jon Newbill, Business and Industrial Training Liaison. During negotiations, it was wisely suggested by the Department of

Education that a full-time project director and a half-time secretary be hired to manage the day-to-day activities.

Jim Chybowski was hired to serve as full-time project director. Gerri Brotherton was hired as half-time secretary. Dr. Mary Fifield served as senior level manager. Pine, Fordyce and Mitchell served as advisory and management consulting team, meeting monthly with the project director.

Fifield was replaced by Dr. David Sam as Vice President of Academic Affairs and Senior Level Manager for the project. Mr. Scott Jenkins replaced Fordyce as Director of Business and Industry Training and member of the advisory and management team. Newbill's functions were absorbed by Project Director Chybowski.

Dr. Doug Procunier, Dean of Community Education; Dr. David Sam, Dean of Natural and Social Sciences (later Vice President of Academic Affairs); Dr. Bettye Wilson, Dean of Academic Services; and Barbara Williams, Dean of Student Services joined the advisory and management consulting team.

Gail Ives, Career Resource Specialist, was replaced by Dan Stetz and Dent Green, both counselors and career specialists with Mott Community College. Virginia Courter, Curriculum Developer for Computer Literacy, was dropped from the project when the Computer Literacy component was determined to be inappropriate for the intent of the federal funding. James Drummond was replaced by Jennie Mulcahy as Curriculum Developer and Instructor for Communications.

To better serve the needs of the business partners, additional instructors were hired. They include:

Beverly Blevins, Writing
Sally Peterson, Writing
Lois Griffin, Math, Problem Solving, Communications
Ronald Falkenstein, Math
Amanullah Dada, Problem Solving
Russell Carson, Problem Solving, Communications, Human Relations
Dent Green, Human Relations
Pat Thull, Communications
Verdell Duncan, Human Relations
Carolyn Post, Reading
Mary Newman, Communications, Reading, Writing
Julie Steffey, Writing

Thomas Hermes, Communications
Dr. Joyce Toet, Reading
Karen Hughey, Communications, Human Relations
Sam Rudnick, Communications
Jennie Mulcahy, Communications

VII. Financial Status Report

The Financial Status Report follows this section. Mott Community College and its business partners provided (10b) $374,734 or 56% of total outlays (10a). This almost doubles the required 30% match and is a strong indication of the commitment to the project on the part of MCC and its twenty business partners.

Given time, the unobligated balance of Federal funds (10i), $6,635, could be well spent in ways that would capitalize on the successes of the project. One beneficial project would be to consolidate the customized curricula into packages that could be transferred successfully to a variety of appropriate situations. Another project could be to do a longitudinal study of the effects of the project on the participants and the business partners. Or this money could be used to host a conference similar to the one co-sponsored by Mott Community titled, "Workplace Education in Michigan: The State of the State," to help disseminate the importance of Basic Skills Training in the Workplace and highlight successful practices.

FINANCIAL STATUS REPORT

(Short Form)

(Follow instructions on the back)

1. Federal Agency and Organizational Element to Which Report is Submitted Department of Education	2. Federal Grant or Other Identifying Number Assigned By Federal Agency E-V198A10048	OMB Approval No. 0348-0039	Page 1	of 1 pages

3. Recipient Organization (Name and complete address, including ZIP code)

C. S. Mott Community College
1401 E. Court St.
Flint, Michigan 48503

4. Employer Identification Number 138-1914697A2	5. Recipient Account Number or Identifying Number 9926	6. Final Report ☒ Yes ☐ No	7. Basis ☐ Cash ☒ Accrual
8. Funding/Grant Period (See instructions) From: (Month, Day, Year) 5-1-91	To: (Month, Day, Year) 10-31-92	9. Period Covered by this Report From: (Month, Day, Year) 5-1-91	To: (Month, Day, Year) 10-31-92

10. Transactions:	I Previously Reported	II This Period	III Cumulative
a. Total outlays	-0-	668,099.00	668,099.00
b. Recipient share of outlays	-0-	374,734.00	374,734.00
c. Federal share of outlays	-0-	293,365.00	293,365.00
d. Total unliquidated obligations			-0-
e. Recipient share of unliquidated obligations			-0-
f. Federal share of unliquidated obligations			-0-
g. Total Federal share (Sum of lines c and f)			293,365.00
h. Total Federal funds authorized for this funding period			300,000.00
i. Unobligated balance of Federal funds (Line h minus line g)			6,635.00

11. Indirect Expense	a. Type of Rate (Place "X" in appropriate box) ☐ Provisional ☐ Predetermined ☐ Final ☐ Fixed			
	b. Rate 8%	c. Base -0-	d. Total Amount -0-	e. Federal Share -0-

12. *Remarks: Attach any explanations deemed necessary or information required by Federal sponsoring agency in compliance with governing legislation.*

13. Certification: **I certify to the best of my knowledge and belief that this report is correct and complete and that all outlays and unliquidated obligations are for the purposes set forth in the award documents.**

Typed or Printed Name and Title James Wilson, Controller	Telephone (Area code, number and extension) (313) 762-0557
Signature of Authorized Certifying Official James Wilson	Date Report Submitted 1-6-93

Previous Editions not Usable

Standard Form 269A (REV 4-88)
Prescribed by OMB Circulars A-102 and A-110

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FINANCIAL STATUS REPORT

(Short Form)

Please type or print legibly. The following general instructions explain how to use the form itself. You may need additional information to complete certain items correctly, or to decide whether a specific item is applicable to this award. Usually, such information will be found in the Federal agency's grant regulations or in the terms and conditions of the award. You may also contact the Federal agency directly.

Item Entry Item Entry

1, 2 and 3. Self-explanatory.

4. Enter the employer identification number assigned by the U.S. Internal Revenue Service.

5. Space reserved for an account number or other identifying number assigned by the recipient.

6. Check *yes* only if this is the last report for the period shown in item 8.

7. Self-explanatory.

8. Unless you have received other instructions from the awarding agency, enter the beginning and ending dates of the current funding period. If this is a multi-year program, the Federal agency might require cumulative reporting through consecutive funding periods. In that case, enter the beginning and ending dates of the grant period, and in the rest of these instructions, substitute the term "grant period" for "funding period."

9. Self-explanatory.

10. The purpose of columns, I, II and III is to show the effect of this reporting period's transactions on cumulative financial status. The amounts entered in column I will normally be the same as those in column III of the previous report in *the same funding period*. If this is the first or only report of the funding period, leave columns I and II blank. If you need to adjust amounts entered on previous reports, footnote the column I entry on this report and attach an explanation.

10a. Enter total program outlays less any rebates, refunds, or other credits. For reports prepared on a cash basis, outlays are the sum of actual cash disbursements for direct costs for goods and services, the amount of indirect expense charged, the value of in-kind contributions applied, and the amount of cash advances and payments made to sub-recipients. For reports prepared on an accrual basis, outlays are the sum of actual cash disbursements for direct charges for goods and services, the amount of indirect expense incurred, the value of in-kind contributions applied, and the net increase or decrease in the amounts owed by the recipient for goods and other property received, for services performed by employees, contractors, subgrantees and other payees, and other amounts becoming owed under programs for which no current services or performances are required, such as annuities, insurance claims, and other benefit payments.

10b. Self-explanatory.

10c. Self-explanatory.

10d. Enter the amount of unliquidated obligations, including unliquidated obligations to subgrantees and contractors.

Unliquidated obligations on a cash basis are obligations incurred, but not yet paid. On an accrual basis, they are obligations incurre[illegible]t for which an outlay has not yet been recorde[illegible]

Do not include any amounts on line 10d that have been included on lines 10a, b or c.

On the final report, line 10d must be zero.

10e, f, g, h and i. Self-explanatory.

11a. Self-explanatory.

11b. Enter the indirect cost rate in effect during the reporting period.

11c. Enter the amount of the base against which the rate was applied.

11d. Enter the total amount of indirect costs charged during the report period.

11e. Enter the Federal share of the amount in 11d.

Note: If more than one rate was in effect during the period shown in item 8, attach a schedule showing the bases against which the different rates were applied, the respective rates, the calendar periods they were in effect, amounts of indirect expense charged to the project, and the Federal share of indirect expense cha[illegible] to the project to date.

SF 269A (4-88) Back

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APPENDIX A

Johnson Controls Technologies, Inc.
Automotive Systems Group
3140 John Conley Drive
Lapeer, Michigan 48446
Tel. 313/664-5001
FAX: 313/ 664-9225

JOHNSON
CONTROLS

September 30, 1992

Mr. James Chybowski
Project Director
Workplace Literacy Project
Mott Community College
711 N. Saginaw Street
Suite 123
Flint, MI 48503

Dear Jim:

Just a note to tell you of an incident that occurred regarding the Communications Classes that Mott is conducting here for our employees.

The other day one of our employees, a young man, came in to my office and asked if the Communications Classes were going to continue. I replied yes and he looked relieved. "I'm so glad," he said. "You know, I've been having problems at home and those classes have helped me understand what I've been doing."

That remark is a commentary on the level of instruction and interaction happening in the classes, and although the main thrust of the courses may be for workplace use, certainly a happy employee is a productive employee.

We are very pleased to be a part of this program. These courses are especially valuable to us as a start-up operation, where funds would not have been available to us to do this otherwise. Keep up the good work.

Very truly yours,

Diana K. Rosa

Diana K. Rosa
Employee Relations Manager

dkr

cc: M. Telgheder

A-2

albar industries inc.
780 WHITNEY DR.
LAPEER, MI 48446-2565
"World Class Plastic Painting"

Mott Community College Community Education
711 N. Saginaw
Suite 123
Flint, Michigan 48503

Dear Jim:

Just wanted to let you know that Marion Kaye Carpenter who was a student in the fall semester of the Skills Enhancement Classes was just promoted to Q.C. Inspector Supervisor! Marion has been here for five years and needed to improve her Math skills in order to be promoted and the Grant made it possible for her.

I felt this was exciting news and I wanted to share it with you. We are grateful to Mott for helping to make a good employee even better through education. Keep up the good work!

Sincerely,

Kathryn J. Bell

Kathryn Bell, Employee Counselor
Corporate Training Coordinator

DURAKON INDUSTRIES

Manufacturing Division
2101 N. Lapeer Road
Lapeer, Michigan 48446-8739
(313) 664-0850
Telex 467 726

April 22, 1992

Mott Community College
Community Education
711 N. Saginaw Street
Suite 123
Flint, MI 48503

Attention: James Chybowski
Project Director

Dear James:

I would like to take a moment to express Durakon's appreciation of your Workplace Literacy Program.

Our employees have demonstrated continuous improvement in each area of study. Our enthusiasm is high, based on the results of those who have attended your program. Your methodology is the most effective way I have seen to produce results, while offering life skills and growth to those in attendance.

Durakon plans to continue to use this program and ask for other levels of education. You have demonstrated to me some of the most valuable attributes in managing any program successfully; your focus, commitment to excellence, and method of sharing information has been received positively by Durakon's students.

I look forward to the development of each employee here at Durakon. Your programs such as problem-solving and communication offer the necessary tools used by our employees to accept larger and more frequent challenges, also it increased their ability to tolerate, accept, and understand individual differences.

I thank you for all you have done and look forward to a continued business relationship.

Sincerely,

Ray Wangler

Ray Wangler
Manufacturing Operations Manager

RW:pkm

APPENDIX B

MCC grant to tackle illiteracy in workplace

By ELIZABETH CUMMINS
Journal staff writer

The U.S. Department of Education has awarded Mott Community College $300,000 to take part in a demonstration project to promote workplace literacy.

The grant will enable the MCC faculty to help 400 workers in Genesee and Lapeer counties upgrade their literacy skills and thus help them keep their jobs or win promotions.

The office of U.S. Rep. Dale E. Kildee, D-Flint, announced that MCC was among 75 colleges chosen to take part in the National Workplace Literacy Program from among 240 that applied.

Training, which will begin this fall, is to increase skills in reading, writing, mathematics, critical thinking, problem solving and interpersonal relations.

It is to be carried out during the workday over 18 months. Employees are to receive full pay while pursuing their studies. Workers will receive individual assessments of needs, followed by 200 hours of training.

Instructors will customize training to workplace settings, with pacing and delivery of materials individualized to the assessed skill levels of each worker.

Four Lapeer-area businesses already have been selected for the project: Durakon Industries, Johnson Controls, Lapeer Manufacturing and Albar Industries.

Chris Ludwig, a spokesman for Kildee, said Genesee County companies would be selected later with the consultation of the Flint Area and Metropolitan chambers of commerce.

"In our competitive global economy, education is a vital component for survival," said Kildee. "Mott Community College has a proven record of training and retraining our workers."

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MCC Workplace Literacy Project Teaches More Than Reading

Are your employees working at top efficiency? Can your company respond quickly and cost-effectively to the needs of your customers? Do your employees have the necessary skills to keep your company competitive?

If your answer is no to any of these questions, where will your company be a year from now, five years from now, in the year 2000?

If you answered no to these questions, you and your employees are eligible to participate in a computer assisted workplace literacy project funded by the U.S. Department of Education and conducted by Mott Community College.

MCC has received this $300,000 federal grant to upgrade the skills of business and industry employees in Lapeer and Genesee counties. The funding period runs through October of 1992. Training is underway in Lapeer County, with Genesee County training slated to begin in January of 1992.

The grant will provide basic skill training for at least 200 persons in Genesee County. Participants will receive instruction in six basic skills for work-related activities and job-specific functions in reading, writing, math, critical thinking and problem solving, and interpersonal relations and oral communications.

All training will be custom designed and individualized to match employee needs and employer expectations. Steps involved include:

- Assessment. MCC counselors and career planning specialists develop training plans according to workplace settings, pacing and delivery, skill levels of participants, and parameters of employer.
- Curriculum development. MCC faculty skilled in curriculum development will customize each employee study plan.
- Instruction. Instructors of adult learners will teach sessions.
- Computer assistance. Courses will be enhanced by the use of WICAT computer assisted and managed instruction.

Neither the employer nor the employee are charged for these services. The program does call for a commitment of time, however, and a flexible schedule can be arranged for the convenience of the company and the individual. Employer support in the form of released time for some portion of the instruction, and employee dedication in attending classes on their own time for the remainder of the instruction is one possibility. The program coordinator will work with participants to arrange a satisfactory schedule. Instruction will be given on the Mott Community College campus.

The rewards are great for the employer, the employee and the community:

- A skilled, knowledgeable, competent work force
- Higher quality/quantity production
- Enhanced communication and job satisfaction
- Greater self-esteem and pride in accomplishment
- Preparation for the year 2000

The project will address the gap between the existing skill levels of current area employees and the level that will be imperative by the year 2000 if local businesses and industries are to remain competitive. Emerging jobs in both manufacturing and services are requiring more education, flexibility and learning ability than jobs of the past.

It is estimated that 85% of the labor force of the year 2000 is already on the job. This means that these are the people who must develop and maintain the skills to keep this area competitive. Training and education is the key, and the responsibility belongs to the employer, to the employee and to the agencies designated to provide the service. Both the burden and the benefits can be shared by all.

For more information, to arrange a consultation or to begin the training program, call Jim Chybowski, program coordinator, (313) 762-0390 or (800) 852-8614.

· Reprinted from ***Business to Business***, Sept., 1991

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Business and Education Coordinating Council

316 WEST WATER STREET • FLINT, MICHIGAN 48503 • PHONE (313) 232-5422

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Goodrich Area Schools
DIRECTOR
Donald E. Peters
COUNCIL MEMBERS
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Edward Hintz, Retired
Kearsley Community Schools
Roy McDermitt (1920-1981)
Merit Tool & Die
Dr. Alva Mallory, Jr., Retired
Genesee Intermediate Schools
harles Pappas
as Enterprises, Inc.
m C. Wright
Certified Financial Planning

Dear Presentor:

Thank you for accepting our request to speak at the GOODRICH HIGH SCHOOL Career Conference. The students and staff as well as the Business and Education Coordinating Council appreciate your taking the time to offer your expertise.

Please find a set of guidelines, and an evaluation sheet enclosed. We ask that due to the important information we may gather from the evaluation form that you return it to us as soon as possible.

Your contact person will be GERI HAMMILL at:

GOODRICH HIGH SCHOOL
8029 S GALE ROAD
GOODRICH MI 48438

(313) 636-2251

CONFERENCE DATE OCTOBER 16, 1991

SCHEDULED TIME 9:28 a.m. - 10:18 a.m.

Again, thank you for your cooperation!

Sincerely,

Donald E. Peters

Donald E. Peters
Director

DEP/ie
enc

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"AFFILIATED WITH THE FLINT AREA CHAMBER OF COMMERCE"
Providing Occupational Awareness and Economic Understanding

B-4

TEXT OF RADIO ADVERTISEMENT
WINGS RADIO - LAPEER, MICHIGAN

Our country's competitive position depends on the skills of our workforce. We know that low-skill jobs are cheaper overseas, and that the high-skill, high-wage jobs are going to other countries as well. The skills of our workforce are our most valuable resource, and we *can* protect our jobs, we *can* insure our competitive position, and we *must* develop the basic skills required to guarantee our success. That's why Mott Community College is working with Lapeer area businesses on a project that develops and enhances those skills. The project is underway now, and a new opportunity to participate will begin soon. Please join Mott Community College and our Lapeer partners, including Albar, Johnson Controls, Lapeer Metal Products and Durakon, at an Open House Celebration at 3:15 on Monday, November 18, at Woodside School, 3149 Woodside Drive in Lapeer. Find out how *you* can be a part of this free learning opportunity. For more information, call 667-4166.

Mott Community College - Lapeer

announces

An Opening Celebration

. . . A Celebration of Literacy

. . . A Celebration of Partnerships

with the

Skills Enhancement Project Through Educational Technology

Join Us

Monday, November 18, 1991 • 3 p.m. • Woodside School
3149 Woodside Drive, Lapeer, Michigan 48446

Mott Community College, in cooperation with Lapeer and its business community, has implemented a project to develop the basic skills necessary for the employees of Lapeer area firms to meet work place challenges in preparation for the year 2000.

- Come join us in recognizing the members of the Lapeer community who are moving to the cutting edge of their industry.

- See a demonstration of the high tech learning center that has been installed in Woodside School in Lapeer to aid the instruction program MCC is providing to the Lapeer community.

- Enjoy refreshments as you become acquainted with the MCC Lapeer Partners in Progress as we celebrate together.

For more information, call Gerri Brotherton, 667-4166

ROUND TABLE DISCUSSION FOR WELDING (T)

Michael Kiss, Welding Instructor, Grand Rapids Community College

General discussion on the role welding is playing in the educational environment, how we can prevent welding from being overlooked as a technology program, and how we can train students for a diverse marketplace.

UNDERSTANDING THE SIGNIFICANCE OF CULTURAL DIVERSITY IN THE 21ST CENTURY (G)

Leslie J. Thornton, M.A., M.S.W., PhD, King, Chavez, Parks Visiting Instructor

This session will focus on the relevance of cultural diversity now and into the 21st century. It will explore why people perceive and act on the world in culturally different ways. Its emphasis will be on culturally based values that are in conflict in everyday interactions.

A NEW PARADIGM: DIVERSITY IN LEADERSHIP (G)

Joyce Hawkins, Educational Counselor/Associate Professor, Ferris State University, College of Technology

The leadership continuum will be explored in this session. A very affective look at gender and ethnic diversity within the new American Leadership Paradigm will be encouraged.

INCORPORATING THE TEAM CONCEPT IN YOUR CLASSROOM (G)

Maryann Frederick, PhD, President, Human Resource Dynamics, Inc.

Individuals who are good team players are in demand by the innovative companies of the '90s. This presentation demonstrates how to involve students in the team concept through work groups. There is a focus on work style combinations within teams and the impact each style has on interactions with the others. Some examples of team projects successfully used in business classes will be given. (Repeat session at 9:00 Thursday).

MICHIGAN DEPARTMENT OF EDUCATION SUPPORT ACTIVITIES FOR COMMUNITY COLLEGES (G)

Barbara Argumedo, Bruce Grow and Jerry Forrest, Community College Services Unit;

Larry Barber and William Rude, Vocational-Technical Education Services, Michigan Department of Education

Major planning, support and general program improvement and evaluation activities, including future trends under the new Carl D. Perkins Vocational and Applied Technology Act as Amended will be discussed. Topics to be discussed include the intent of Perkins II, special population services, new program approval, program planning, local and state evaluation, and general program improvement. In addition, faculty professional development, Fast Track, Tech Prep, and Single Parent/Homemaker and Sex Equity grants will be discussed.

SERVING THE LEARNING DISABLED STUDENT ON YOUR CAMPUS (G)

Dr. Jane Jarrow, Executive Director, AHSSPPE

Identifying, assessing and providing appropriate accommodations for students with learning disabilities on your campus is their key to success. Processes and strategies for assisting these students will be presented.

BASIC SKILLS TRAINING BY SMALL AND MEDIUM SIZED EMPLOYERS IN MICHIGAN (G)

Kevin Hollenbeck, Senior Economist, W.E. Upjohn Institute for Employment Research

James J. Chybowski, Project Director-Workplace Literacy Project, C.S. Mott Community College

This presentation will summarize the results from a study of employer-sponsored basic skills training in Michigan. The focus of this particular study is on policy prescriptions to increase training levels.

NORTH CENTRAL ACCREDITATION: AN OVERVIEW OF THE ACCREDITATION PROCESS (G

Bettye J. Wilson, PhD, Dean of Academic Services;

Mary Fifield, PhD, Vice President of Academic Affairs; a[illegible]

James Drummond, English Faculty, C.S. Mott Comm[illegible] College

An NCA Commissioner-at-Large, Consultant-Evaluator and Self-Study Coordinator will present their respective roles in the accreditation process. The coordinator will discuss the self-study process and compilation of the self-study report; the consultant-evaluator will discuss the onsite visit and the team evaluation report; and the commissioner-at-large will detail the steps between the evaluation report and the Status of Affiliation awarded by the commission.

12:00-1:30 LUNCHEON - Ambassador Ballroom

Presiding: James Folkening, Supervisor, Higher Education Management Services, Michigan Department of Education

Introduction of Keynote Speaker: Anita Gliniecki, Dean of Nursing, Allied Health, and Occupational Studies, St. Clair Community College

Speaker: Dr. **Paul Pearson**, Director, Human Resources Development, Steelcase, Inc.

1:45-3:00 BREAKOUT SESSIONS

THE IMPACT OF THE NEW AMERICAN ASSEMBLY OF COLLEGIATE SCHOOLS OF BUSINESS (AACSB) ACCREDITATION STANDARDS ON COMMUNITY COLLEGES (B)

Darrell Jones, Dean, Haworth College of Business, Western Michigan University

AACSB modified its standards at the annual meeting i[illegible]. Louis on April 23, 1991. Do the standards now offer g[illegible] opportunities for community college/university cooperati[illegible]

SOFTWARE TOOLS IN BUSINESS (B)

Jeffrey A. Stipes, Director, Business and Industrial Training, and

Dr. **Timothy N. Trainor**, CIS Coordinator and Senior Instructor, Muskegon Community College

A look at the use of personal productivity software (word processing, spreadsheets, database, and graphics) as an integrated component of manufacturing technology. The integration of these technologies into existing curriculum will also be reviewed. (Repeat session at 3:30 Thursday).

TRANSCULTURAL NURSING: ESSENTIAL FOR HUMAN CARING (H)

Madeleine M. Leininger, PhD, L.H.D., D.S., R.N., C.T.N., F.A.A.N., Professor of Nursing and Anthropology/Director of Transcultural Nursing and Human Care Programs, Wayne State University

This presentation focuses on the field of transcultural nursing and human care as essential to practice nursing in our multicultural world. Understanding people of diverse cultures and using transcultural nursing concepts and practices will be most helpful to the nurse and client. (Repeat session at 3:30 Thursday).

HEPATITIS B VIRUS INFECTION: IMPLICATION FOR THE HEALTH CARE PROFESSION (H)

David B. Martin, M.D., Chief, Infectious Disease Section, Munson Medical Center

Hepatitis B, because it is transmitted by more than one [illegible]e and in more than body fluid, poses special risks to severa[illegible]-defined groups. Since there is no effective treatment available for Hepatitis B once contracted, these populations are most in need of a vaccine to prevent the disease.

MCCCSA

An association of community services and continuing education administrators in Michigan community colleges.

MICHIGAN COMMUNITY COLLEGE COMMUNITY SERVICES ASSOCIATION

"We Stick Our Necks Out"

March, 1992 Newsletter ■ Willie J. Richardson, Editor

ANNUAL SPRING CONFERENCE MARCH 19 & 20, 1992

The Annual Spring Conference will be held at **Muskegon Community College March 19 & 20 with a theme of** *"Managing Change for the 1990s & Beyond."* The sessions will focus on the unique community colleges' role in addressing industrial training and assisting social agencies meet human needs during the economy downturn. Conferees' participation will be prominent with two sharing sessions on 1) new and innovative programs, and 2) customer service programs (as a follow-up to the fall conference). Two featured morning speakers are **Leslie Charles**, a professional trainer from Lansing, speaking on *"Managing Change for the 90s"*, and **Dr. Martha Hesse** of Michigan State University speaking on *"Institutional Effectiveness: Does It Matter For Community Service/ Community Education."* The hospitality hour will feature music and a quick draw cartoonist doing caricatures of some of our illustrious members. **For information call Dennis Wilson, Dean of Community Services, Muskegon Community College, (616) 777-0202.**

About Muskegon Community College . . .

Muskegon, the site of the Spring Conference, is much like most Michigan communities which are facing recession. During the middle decades of this century, Muskegon was heavy industry town with the majority of firms linked to the auto industry. For the past 10 years, the economy has shifted towards a diversified industrial base—including tourism, agriculture and high tech industry that serve the non-automotive sector. Still there are some industries that are remaining productive and profitable by expanding markets, diversifying their product lines, and implementing improved technologies. Muskegon's efforts are led by the Muskegon Economic Growth Alliance (a chamber of commerce and industrial development corporation) in which the college has a key role in leadership on MEGA's Board.

The Community Services Office in Muskegon is active in conducting training for industry and business and serving as a resource for social services and educational institutions that address human needs.

PRESIDENT'S MESSAGE . . .

Earlier last month, thirteen members from the **Michigan Community College Community Services Association** participated in the **Third Symposium on Lifelong Learning at Ferris State University.** The Symposium theme "Working *Together in Continuing Higher Education"* demonstrated the need for two and four year institutions to build dynamic partnerships, or "those bridges that allow rationally derived necessities to be politically installed." (From Larry Donnithorne, *"Institutional Politics and Planning,"* 1991.)

Dr. Dale Parnell, Commissioner of Community College Services in Oregon, traveled over 25,000 miles (via satellite) to present his perspectives on the community college's role in build-ing those bridges. He said community colleges can do that by:

- **Providing a (missing) link** between human resource development and society's training needs. More still, com-munity colleges can lead "the crusade" against human waste.
- Preparing its participants for the **global community** by providing activities in foreign languages, ethnic studies and cultural awareness.
- Developing learning opportunities for the **"At-Risk" population.** Parnell added, "We need a domestic Marshall Plan that improves the human condition."
- Implementing our own **effectiveness indicators** that encourage access and ensure quality. Think of your programs with "a value added approach" that connect cost with accountability.
- **Revitalizing civic learning**, by helping our citizens understand **government**, good citizenship and service to others. Otherwise, our constituents will be alienated from, and distrustful of society.
- Providing **programs for "people who aren't acting their age."** With the average age of community colleges students at 29 years, more mature people are going to school full time. Redesign educational programs to match the way people learn—with their hands and heads. And according to **American Demographics**, "Some media may dwell on free-spending singles driving BMW's, but the real money drives a station wagon."
- **Searching for "synergy"** and building a connectiveness in education and the economy. Best bet for success: through the curriculum.

Bridging these crevasses, or translating the goals into action plans - will take more than a long neck. It will require your skill at marshalling support for educational priorities with specific allotments of always - scarce resources.

Looking forward to building bridges with you at the March Conference.

All the best,
John Zappala

NEW MEMBERS RECOGNITION

The following individuals are new to the membership of MCCCSA:

- **Mary Lou Rigg**
  Coordinator, Western Regional Center for Contining Education
  Washtenaw Community College
- **Cheryl Throop**
  Director of Center for Business & Industry
  Northwestern Michigan College
- **Bettye Thomas-Gilke**
  Account Coordinator, Business & Industry Institute
  Lansing Community College

Welcome new members!

NOTEWORTHY PROGRAMS

- **Henry Ford Community College** designed both a 195 hour welding and a 263 hour tool and die training program to meet the needs of a **Skilled Trades Enrichment Program** (STEP) agreed to in a memorandum of understanding by Delco Products — Division of General Motors Corporation and Local 262 of the United Automobile, Aerospace and Agricultural Implement Workers of America. HFCC was selected because of the reputation of the college and faculty, the comprehensiveness of our welding lab and our ability to help the company save costs through securing a $100,000.00 Quick-Start program.

- **Mid Michigan Community College**, in cooperation with **Kirtland Community College**, is developing a **Japanese language and cultural program**. The instructor — on sabbatical from Japan — is meeting with community members to determine specific course content. In addition, several Japanese businessmen are planning a visit to the Mid Michigan area and have requested that the College provide an English-as-a-Second Language class.

At Muskegon Community College:

- **The Eighth Annual West Michigan Township Officials Conference** was held on January 11 with 75 participants. This was done in conjunction with the Michigan Townships Association and features guest speakers who are successful township officials and MTA executives.

- **The Second Annual World Class Manufacturing Conference** was held in November with 290 enrollees from area industry. This is co-sponsored with the Muskegon Economic Growth Alliance with a focus on elements of the Malcolm Baldrige Award winners from industry. The target participants are CEOs, plant managers and quality assurance personnel.

- **Muskegon's African-American Celebration 1992** will feature over eighty cultural, artistic and educational events to acknowledge the role and contributions of the black community in West Michigan. Muskegon Community College's Director of Continuing Education, **Janie Brooks**, is co-chairing the event that involved every major organization in the community in planning and conducting the eve

- **Delta College** features an annual **Community Excellence Award** program that honors exceptional community service on the part of high school students. This project garners a significant amount of public relations for Delta inasmuch as three (3) local newspapers (*The Bay City Times*, *The Saginaw News*, and *Midland Daily News*) are sponsors of this Award, along with Dow Corning. The sponsors incur the major expenses of this Award.

  For information concerning this Award program contact **Willie Richardson**, (517) 686-9413.

- **Mott Community College** has received a grant of $300,000 from the U.S. Department of Education to provide a **computer-assisted workplace literacy project** in Lapeer and Genesee counties. The funding period runs through October of 1992.

  The project addresses the gap that exists between the existing skill levels of current area employees and the level that will be imperative by the year 2000 if the local businesses and industries are to remain competitive. Emerging jobs in both manufacturing and services are requiring more education, flexibility, and learning ability than jobs of the past.

  For more information contact Scott **Jenkins**, Director, Business & Industry Training (313) 762-0391.

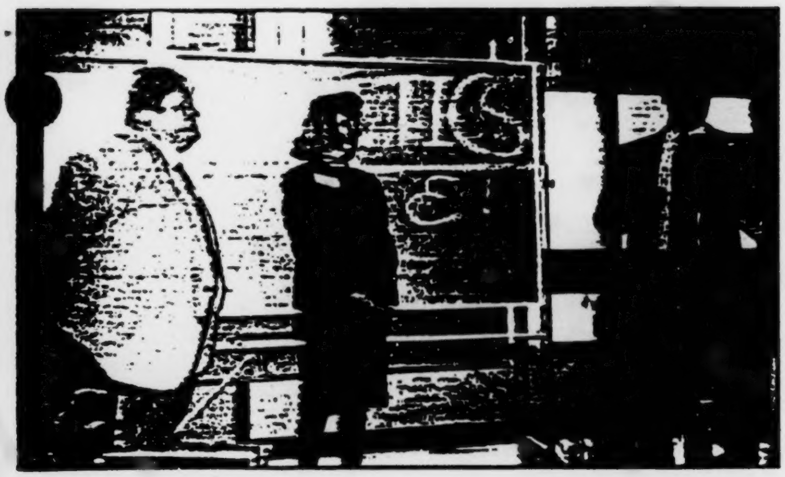
- **Oakland Community College** reports that through a grant from the Michigan Dept. of Commerce, in cooperation with Michigan Modernization Service, the **Business and Professional Institute** has developed a **DFA program**. Companies involved in helping **BPI develop this program** include: GM, Ford, Chrysler, Time Engr., Engineering Technology, W.C. McCurdy and Cars and Concepts. The DFA program includes the following workshops: 1/2-day DFA Management Briefing; 1/2-day Executive Briefing and a 2-day DFA Workshop. There is also a 1-1/2 hour train-the-trainer video and a Boothroyd & Dewhurst DFA software package available. The Business and Professional Institute plans to market this program to the small to medium size manufacturing firms. It is our intent to market the program to other community colleges as well.

  For information contact **Bonnie George** at (313) 540-1511.

NEW LINGO

Workplace Literacy is a misnomer, because it implies illiteracy. The purpose of **Mott Community College's Workplace Literacy Project** is not necessarily to combat illiteracy, but rather to enhance the skills of the employee/participant with the intent to increase the effectiveness and efficiency on the job. We prefer to use the term **"Skills Enhancement Project."**

MCCCSA CANDIDS



Get it [illegible]

He's heavy and he's not my brother!

Take a [illegible] Karl and loosen up!

I bet you don't know where I've been!

Things that [illegible] "Huh"!

You would have good taste if you knew how to select ties!

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Bay de Noc

Sponsorship and promotion of a six-part teleconference series originating from Virginia Tech University proved to be a well received service to business and industry during 1991. The three-hour live programs, spread from March to December, dealt with all aspects of TQM implementation. Wrap around activities and networking opportunities enhanced each meeting. Forty-two employees from twenty-four organizations attended some or all of the sessions.

Grand Rapids Community College

Grand Rapids Community College recently completed a project with Rapidline, Inc., an office furniture parts manufacturer. The task was to analyze the manufacturing operations in relationship to information requirements of the company. GRCC is the first community college in Michigan to complete a project supported by the Midwest Manufacturing Technology Center (MMTC). The recommendations included both hardware and software typology for a local area network. These recommendations are now being used to implement the system.

Henry Ford Community College

Henry Ford Community College designed a 195 hour welding and a 263 hour tool & die training program to meet the needs of a Skilled Trades Enrichment Program (STEP) agreed to in a memorandum of understanding by Delco Products Division of General Motors Corporation and Local 262 at the United Automobile, Aerospace and Agricultural Implement Workers of America. HFCC was selected because of the reputation of the college and faculty, the comprehensiveness of our welding lab and our ability to help the company save costs through securing a $100,000 Quik-Start program.

Jackson Community College

The Personnel Development Institute at Jackson Community College is participating in the Technology Transfer project, a pilot program directed by the Center for Materials and Methods Technology in Traverse City. The project encourages private firms to take advantage of the vast technological opportunities available through a network of some 600 Federal Labs. Bev Lange recently attended a workshop at the Argonne National Laboratory, Department of Energy, located near Chicago, Illinois. Bev will serve as the Technology Transfer link between the lab and area business and industry.

Upcoming Workshops/Teleconference

World Class Manufacturing-Theory of Constraints-What Is It?
February 12 & March 18 ▪ 8 a.m. - 12 p.m.

Exec. Decision Making-The Philosophy & Appl. of Theory of Constraints
March 26, 27; May 28, 29 ▪ 8 a.m. - 5 p.m.

Kalamazoo Valley Community College

Kalamazoo Valley Community College in cooperation with Upjohn Institute provided loan collection training for First of America. Twenty participants completed this training in Fall of 1991. The program included Bank Loan Collections, Computerized Based Training, Keyboarding, and Communicatior [illegible] 'ls totalling 116 hours of training.

Lake Michigan College

Whirlpool Corporation's decision to expand their Consumer Assistance Center in Benton Harbor and to locate a new facility in Knoxville, Tennessee initiated the formation of a long term training partnership with Lake Michigan College. This partnership focused on the redesign of Whirlpool's existing Consumer Assistance Representative training. This project, awarded a Quik Start grant of $92,223 from the Michigan Department of Education, included producing a training manual with accompanying training video programs. The workbooks, which cover 5 and 1/2 weeks of new hire training, contains 21 modules and a testing section. To enhance the training modules on appliance installation, four video programs were produced. In addition, a video with interactive exercises was produced to emphasize "world class service telephone behaviors." To date, over 100 new employees have been trained.

Mid Michigan Community College

Mid Michigan Community College, in partnership with Federal Broach of Harrison, provided Statistical Process Control (SPC) training for 16 employees of the company. William Martin, Federal Broach CEO states, "Extensive and periodic re[illegible]ing at the workplace is necessary if the American society a[illegible] whole is to survive and grow, and the Business and Industry Development Center (BIDC) of MMC is the best positioned educational institution to retrain and educate the workforce."

Monroe County Community College

A Municipal Officials' workshop II on Economic Development will be presented by Monroe County Community College on January 23, 1992. The theme will be "Problem Solving." It will be followed on February 21, 1992, with a single day seminar on "Problem Solving." The seminar is for elected and appointed officials and employees of all Monroe County Municipalities.

Montcalm Community College

A collaborative program between Montcalm Community College, local employment agency, and K-Mart, Incorporated to test and train individuals for possible employment in a new K-Mart store. The emphasis of the program will be to assist the currently unemployed.

New position - Director of Business and Industry Development. Responsible for training, retraining and program implementation for business, industry, and professional group[illegible]

- Continued -

MICHIGAN COMMUNITY COLLEGE TRAINING DIRECTORS NETWORK

(Continued from Page 4)

Northwestern Michigan College

Stan Sidor, Center for Business and Industry, Northwestern Michigan College recently completed a training program in ISO 9000, and is now a registered lead assessor for the International Standards Organization. The ISO 9000 third party registration is of particular interest to companies conducting business in Europe, as many European manufacturers are now requiring their suppliers to be certified in this series of standards.

Stan will be available, (616) 922-1723, to discuss the implications of this standard with you and your local manufacturing companies.

Schoolcraft College

Beginning in August, six Indonesian medical professionals began a training program through the Business Development Center at Schoolcraft College that was truly international in its scope. The project began with funding by the World Bank to upgrade the skills of the medical community in Indonesia. The Indonesian government, in turn, funded a project through Lambton College in Sarnia, Ontario who contracted with Schoolcraft College to train the six individuals (four men and two women) in Biomedical Technology which is the repair of medical equipment such as X-ray, CAT Scan, blood gas analyzers. The Indonesian nationals were provided classroom instruction at Schoolcraft and Michigan State (arranged through Schoolcraft), and served internships at University of Michigan and Beaumont hospitals. Ultimately, the Indonesians will train the medical technicians throughout their country in the new technologies. Currently, an adjunct faculty member from Schoolcraft is in Indonesia overseeing the establishment of the training programs there.

Washtenaw Community College

Washtenaw Community College is piloting "Washtenaw at Work" with a company in Ann Arbor. This education program is designed to develop employee skills in the areas of academic skills, teamwork skills and personal management skills. Courses include: mathematics, reading, writing, problem solving, communication, teambuilding, and interpersonal skills. The courses can be taught at the worksite. Both a company training needs assessment and individual participant skills assessments are available. Companies can contract with Washtenaw for all or anyone, or more of the individual course modules.

INFORMATION FOR THE PROFESSION

- Of the more than 2400 recent reports and studies related to the need for improved skills in the work force to improve the competitiveness of American Industries in a Global Economy, perhaps the best known is the Hudson Institute's report titled: **"Work force 2000; Work and Workers for the 21st Century."** This study describes the fact that the emerging jobs in both manufacturing and services are requiring more education. The "Skills Gap" — the area between the skills an employee brings to the workplace and the skills needed now and in the future is widening. Every advancement in technology, every policy decision that broadens the bureaucracy, every advancement in production methods all serve to expand the skills gap. It is estimated that by the end of the century 52% of all new jobs will require some college education as compared to 42% today.
- **Whole brain learning** can be succinctly stated: although each person uses all four quadrants of the brain, one or more are dominant. The dominant quadrant explains preferred learning styles, our likes and dislikes, our interests and motivations, the way we do our work, the way we relate and communicate with others.

How does this apply to continuing education? A person's learning and teaching preferences are determined by one or more quadrants of the brain that are dominant for that person. This is important in designing effective educational programs. An Administrator or teacher should be aware that the educational program should contain components that will address students' learning styles that are different from the administrator's or teacher's. An effective educational program will be whole brain and include elements that will reach students who have different learning styles and preferences.

Source: *The Reporter*, a publication of the **International Association For Continuing Education And Training** (February, 1992 issue).

QUOTABLE QUOTE

"Our opportunities are limited more by our attitudes than by our resources, and more by what we are accustomed to doing than by what we do."

Author Unknown

MICHIGAN COMMUNITY COLLEGE
COMMUNITY SERVICES
ASSOCIATION

March, 1992 Newsletter

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Benton Harbor, MI 49022
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NCCSCE Liaison - Leslie Brockett
Jackson Community College

MODAC Liaison - Dennis Wilson
Muskegon Community College

MCCA Liaison - Ron Griffith
Schoolcraft College

MACCADAR Liaison - Cindy Zuzelski
Jackson Community College

MACAE-Coalition - Betty Gilkey
Lansing Community College
Cindy Zuzelski
Jackson Community College

NCCSCE State Rep. - Shirley Behrend
Bay de Noc Community College

Leadership Conf. - Noreen Thomas
Schoolcraft College
John Zappala
Mid Michigan Community College
Shirley Behrend
Bay de Noc Community College

Archives - Cindy Zuzelski
Jackson Community College
Debra Brown
Jackson Community College

Photographer - Cindy Zuzelski
Jackson Community College

Delta College
University Center, MI 48710

Delta College
WE ARE THE OPPORTUNITY
Begin Today

Blk. Rt.

UNIVERSITY CENTER
MICH.

U.S.POSTAGE
0 19 8

300 South Westnedge Avenue
Kalamazoo, Michigan 49007

WORKPLACE EDUCATION CONFERENCE

WORKPLACE EDUCATION IN MICHIGAN:

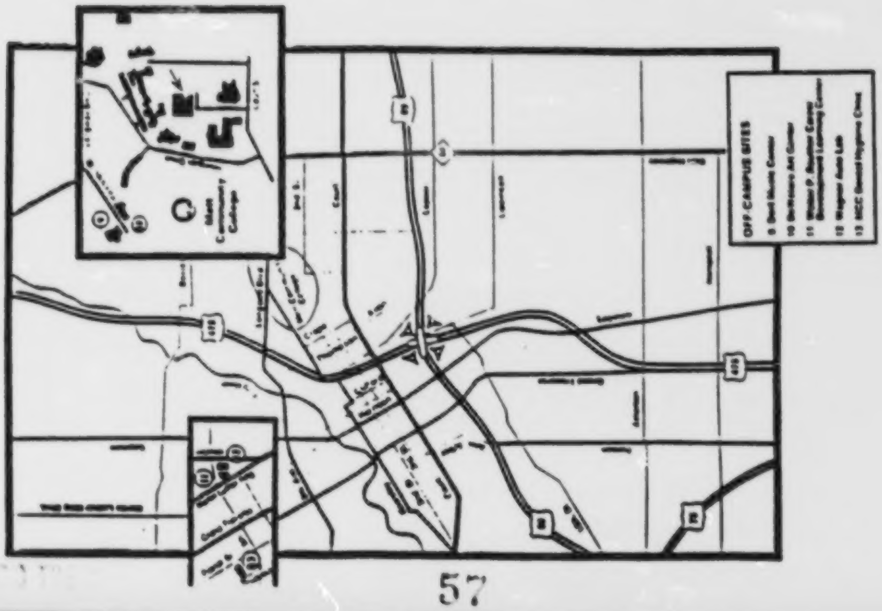
The State of the State

August 21 ◆ 8:30 - 3:00

Mott Community College
Flint, Michigan

Don't Miss This IMPORTANT Conference!

DIRECTIONS: Take the Court Street exit from I-475 and go East approximately 1 mile to Mott Community College campus on the left. The conference is in Prahl College Center, the Main building with three flagpoles.
PRAHL COLLEGE CENTER
MOTT COMMUNITY COLLEGE
FLINT, MICHIGAN



WORKPLACE EDUCATION

The State of the State

August 21, 1992 - 8:30 to 3:00 - Mott Community College, Flint

- *Can workplace education programs that provide instruction in basic skills lead to a resurgence in Michigan's economy?*
- *Are such programs viable in small businesses?*
- *Are Michigan firms keeping pace with firms across the Nation in offering education programs to upgrade workers' skills?*
- *What are the barriers that firms and education providers face in establishing workplace education programs?*
- *How have some firms overcome these barriers?*
- *What initiatives are federal policy-makers pursuing in the area of workplace education?*

These questions will be addressed on Friday, August 21 at Mott Community College in Flint, when business leaders, union representatives, federal and state lawmakers, education providers, and researchers meet to share information about policy initiatives, resources, successful program components, and research.

We invite you to join us !!

AGENDA:

8:30 - 8:45	Registration, Coffee and Rolls
8:45 - 9:00	Welcome and Introduction
9:00 - 10:45	Employer and Provider Panel
10:45 - 12:15	Research Findings About Workplace Basic Skill Enhancement Programs Results from a Michigan Study of Programs in Small and Medium-Sized Companies Results from a National Study of Workplace Education Programs
12:15 - 1:30	Lunch with presentations by: Representative Nate Jonker - "Initiatives in Lansing" Congressman Dale Kildee - "Federal Policy in Workplace Education"
1:30 - 3:00	The State of the State: Michigan's Workplace Educational Needs and Available Resources

SPONSORED BY:

Mott Community College
Community Education

W.E. UPJOHN INSTITUTE

S I P A
Southport Institute for Policy Analysis

FEATURED SPEAKERS:

Dr. Forrest P. Chisman, President
Southport Institute for Policy Analysis,
Washington, D. C.
and Author of:
"*Jump Start: The Federal Role in Adult Literacy*" and
"*The Missing Link: Workplace Education in Small Business*"

Congressman Dale Kildee
Chairman, U.S. House Subcommittee for Elementary, Secondary, and Vocational Education

Representative Nate Jonker
Chairman, Michigan House Special Committee on Workforce Readiness

Dr. Kevin Hollenbeck
Senior Economist, W.E. Upjohn Institute for Employment Research and Project Director,
Workplace Basic Skills Training in Small and Medium-Sized Firms in Michigan

---

Registration deadline is August 7th. Please register by mail or phone: Melanie Kolacheck, Mott Community College, 711 North Saginaw St. Suite 123, Flint, MI, 48503, (313) 762-0386. *Space is limited and registration is necessary to reserve a place.* There is no charge for conference and lunch; compliments of the sponsors.

Name(s) ________________________________

____

Organization ________________________________

Address ________________________________

City ____________ State _____ Zip Code _______ Phone ____________

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WORKPLACE EDUCATION IN MICHIGAN:

The State of the State

AUGUST 21, 1992

8:45 - 3:00

MOTT COMMUNITY COLLEGE
FLINT, MICHIGAN

Sponsored by:

Mott Community College Community Education
The W.E. Upjohn Institute for Employment Research
The Southport Institute for Policy Analysis

8:45 - 8:50 **MOTT COMMUNITY COLLEGE WELCOME**
Allen Arnold - President

8:50 - 8:55 **W.E. UPJOHN INSTITUTE WELCOME**
Kevin Hollenbeck - Senior Economist

8:55 - 10:35 **EMPLOYER AND PROVIDER PANEL, Bill Anderson, W.E. Upjohn Institute, Moderator**

9:00 - 9:15 Ron Eldridge, Johnson Controls, Jack Dixon, Pioneer Cabinetry and Flint Innovation Council, and Jim Chybowski, Mott Community College

9:15 - 9:30 Laura Tew, Olin Corporation, and Nancy Browning, Bentley Center, Livonia Adult Education

9:30 - 9:45 Peter Rosenkrands, A.B. Heller Co., and Carol Stencel, Oakland Community College

9:45 - 10:00 John Hunter, UAW; Jay Tucker, Ford; Cynthia Conway, UAW-Ford NEDTC; and Carol Swingle, Milan Area Schools

10:00 - 10:15 Jack Neal and Douglas Dolby, ARVCO, and Diane Minsley, Kalamazoo Adult Education

10:15 - 10:35 Finish presentations and general discussion from the audience

10:35 - 10:45 **BREAK**

10:45 - 12:15 **RESEARCH FINDINGS ABOUT WORKPLACE EDUCATION PROGRAMS, Kevin Hollenbeck, W.E. Upjohn Institute, Moderator**

10:45 - 11:15 Jane Kulik, Abt Associates, Inc., Cambridge, MA, "*Education's Role in the Transformation to High Performance Workplaces--A National Study*"

11:15 - 11:45 Kevin Hollenbeck and Bill Anderson, "*Workplace Education Programs in Small and Medium-sized Businesses in Michigan*"

11:45 - 12:15 Forrest Chisman, Southport Institute, "*The Missing Link: Workplace Education in Small Business*"

12:15 - 12:30 **BREAK FOR LUNCH**

12:30 - 1:30 **LUNCHEON PROGRAM: WORKPLACE EDUCATION POLICY, Bridget Ryan, Mott Foundation, Moderator**

12:45 - 1:00 Forrest Chisman, "*Policy Implications from a National Study of Workplace Education in Small Business*"

1:00 - 1:10 State Representative Nate Jonker, "*Initiatives in Lansing*"

1:10 - 1:30 US Congressman Dale Kildee, "*Federal Policy in Workplace Education*"

1:30 - 1:45 **BREAK**

1:45 - 3:00 **THE STATE OF THE STATE: MICHIGAN'S WORKPLACE EDUCATIONAL NEEDS AND AVAILABLE RESOURCES, Kevin Hollenbeck, Moderator**

1:45 - 2:05 Kevin Hollenbeck, "*Workplace Education Resources, Organizations, and Activities: A View from Mars*"

2:05 - 2:15 Gloria Grady Mills, Michigan Adult Literacy Initiative, "*Response and Comments*"

2:15 - 3:00 "*What is the Message?*" A Delphi Process

3:00 **ADJOURNMENT**

The New 3 R's:

Re-Discover
Re-Structure
Re-Kindle

27th ANNUAL NATIONAL CONFERENCE
of the
NATIONAL COMMUNITY EDUCATION
ASSOCIATION
The Westin Hotel Renaissance Center
December 2 to 5, 1992
Detroit, Michigan

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Conference Schedule

Following is a comprehensive schedule of all conference sessions and events including course descriptions of concurrent sessions. Most sessions will be held on level 5; keynote and luncheon sessions on Level 4. The level is indicated after the room name for those sessions and events being held on levels *other than* 5.

Wednesday, December 2

8:30 a.m. - 5:00 p.m.
NCEA Board of Directors Meeting — JOLIET
NCSCEA Meeting — NICOLET

11:00 a.m. - 6:00 p.m.
Conference and Pre-Conference Workshop Registration — MACKINAC BALLROOM FOYER

Noon - 5:30 p.m.
Pre-Conference Seminar — BRULE
Marketing to Win!

1:00 p.m. - 3:00 p.m.
IHE Meeting — LASALLE B
NCSEACE Meeting — LASALLE A

1:00 p.m. - 5:00 p.m.
Exhibit Set-up — MACKINAC BALLROOM

4:00 p.m. - 6:30 p.m.
ICEA Meeting — MARQUETTE A

5:30 p.m. - 6:30 p.m.
NCEA Regional Meetings
Region 1 — LASALLE A *(Connecticut, Maine, Massachusetts, Pennsylvania, New Jersey, New Hampshire, New York, Rhode Island, Vermont)*
Region 2 — LASALLE B *(Delaware, District of Columbia, Maryland, North Carolina, South Carolina, Virginia, West Virginia)*
Region 3 — CADILLAC A *(Alabama, Florida, Georgia, Kentucky, Mississippi, Tennessee)*
Region 4 — CADILLAC B *(Arkansas, Kansas, Louisiana, Missouri, Oklahoma, Texas)*
Region 5 — RICHARD A *(Illinois, Indiana, Michigan, Ohio)*
Region 6 — RICHARD B *(Iowa, Minnesota, Nebraska, North Dakota, South Dakota, Wisconsin)*
Region 7 — MARQUETTE A *(Arizona, California, Colorado, Hawaii, Nevada, New Mexico, Utah, Wyoming)*
Region 8 — MARQUETTE B *(Alaska, Idaho, Montana, Oregon, Washington)*

6:30 p.m. - 7:30 p.m.
Newcomers' Reception — RIVERFRONT BALLROOM (Level 3)

7:30 p.m. - 1:00 a.m.
Welcome Reception — RIVERFRONT BALLROOM (Level 3)
Made in Michigan

Thursday, December 3

7:00 a.m. - 8:30 a.m.
Journal Review Board Meeting — MARQUETTE A

7:30 a.m. - 8:30 a.m.
Coffee with Exhibitors — MACKINAC BALLROOM

7:30 a.m. - 6:00 p.m.
Conference Registration — MACKINAC BALLROOM FOYER

7:30 a.m. - 5:00 p.m.
Exhibits Open — MACKINAC BALLROOM

8:30 a.m. - 10:00 a.m.
Opening Session and Keynote Address — COLUMBUS BALLROOM (Level 4)
Making Miracles: Finding Meaning in Life's Chaos
Dr. Paul Pearsall, Author and Lecturer, Franklin, MI

10:00 a.m. - 10:30 a.m.
Exhibit Grand Opening (with coffee) — MACKINAC BALLROOM

10:30 a.m. - 11:45 a.m. — Concurrent Sessions (by track)

Current Issues

◆ **Family Employability Development Plan** — CADILLAC A
A case management process to build trust and empower family members to act on their own.
Dr. Elli Andrews, Consultant, Adult Extended Learning Services, Michigan Dept. of Ed., Lansing

◆ **Adolescent Health Issues: Looking Toward the Year 2000** — RICHARD A
AIDS prevention at the elementary and middle school levels [illegible] panel discussion on the "how-to's" of implementing this innovative program.
Colleen Burzynski, Health Education Coordinator, Genesee County Health Department, Flint, MI; and Ruth Wollin, Susan Labosky Tippet, Michelle Salerno, Fred Rettenmund, Sandra Junior, Community Education Agents/Health Advocates, Flint Community Schools, Flint, MI

Leadership Development

◆ **A Future Definition and Vision for Community Education** — KENT (Level 3)
Report of a year-long effort by leaders in the field to develop a common definition and vision for community education. Participant input sought.
Dr. Charles Porter, Coordinator, Community Education Development, Colorado State University, Fort Collins; Dan Cady, Director, Community Education Programs and Services, Flint, MI

◆ **The Myths of Aging** — LASALLE A
Being an older person in a youth-oriented society —challenging the negative myths and stereotypes.
Louise Churches, Speaker Emeritus, Area Agency on Aging 1B, Detroit, MI

◆ **Leadership Life Styles: Managing or Leading? Doing Things Right or Doing the Right Thing** — MARQUETTE A
Dr. Paul Pearsall, Author and Lecturer, Franklin, MI

Building Partnerships and Coalitions

◆ **A Case for Workplace Literacy** — CADILLAC B
Building partnerships between higher education and the business community to deliver basic skills training.
Jim Chybowski, Director, Workplace Literacy Project, Mott Community College, Flint, MI

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APPENDIX C

EVALUATION

WORKPLACE LITERACY

MOTT COMMUNITY COLLEGE

Dr. Ronald Silverman

December 1992

Project for Urban and Regional Affairs
Office of Research
The University of Michigan-Flint

Acknowledgements:

Recognition is due to PURA staff who assisted in the evaluation: Joel Kinzie, assistant data manager; Jane Zehnder-Merrell, editor; and Virginia Badour, research secretary. The cooperation of the staff at C.S. Mott Community College was also appreciated: Scott Jenkins, director of Business and Industry Training and Jim Chybowski, project director who collected, assembled, and checked participant data and faculty feedback.

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E - Partners Survey

F - Partners Survey Frequencies

G - Partners Survey Frequencies

H - Mid and Final Evaluation Forms

I - Evaluations of Courses, Instructors, and Materials (weighted)

This report is the final product of a process which began in November 1991 when the Project for Urban and Regional Affairs (PURA) contracted with Mott Community College (MCC) to evaluate its ongoing Workplace Literacy Project. At that time, three Lapeer County based employers (hereafter referred to as Partners) were being served under the terms of a proposal submitted by MCC to the U.S. Department of Education on July 13, 1990. The Abstract of the proposal states:

> In this Workplace Literacy proposal, Mott Community College, a public comprehensive community college, has joined with four businesses (Durakon Industries, Johnson Controls, Lapeer Metal Products and Albar Industries, Inc.) as well as the Flint Area Chamber of Commerce and the Metropolitan Chamber of Commerce to prepare a plan to offer basic skill training to 400 employees in Genesee and Lapeer counties who need basic skill retraining in order to retain their current employment or be competitive for promotions within their respective companies.
>
> The basic skill areas were identified through personal interviews and evaluations provided by businesses, as well as longitudinal data collected and analyzed by the Business and Industrial Training Area of the Community Education Department of Mott Community College.
>
> The six basic skills areas are: (See Appendix A for course descriptions)
> 1) Reading for work-related activities and job-specific functions
> 2) Writing for work-related activities and job-specific functions
> 3) Math for work-related activities and job-specific functions
> 4) Critical thinking and problem-solving skills specifically related to worksite situations
> 5) Interpersonal and communication skills related to workplace interactions and situations
>
> All employees/students involved in the project will be assessed by Mott Community College (MCC) counselors, and assisted by MCC counselors and career planning specialists to develop an individualized training plan within the parameters set forth by their employer. All training will be customized by the instructor to workplace settings, and pacing and delivery of materials within each course will be individualized to the assessed skill levels of each participant.

The customization will be done by MCC faculty members skilled in curriculum development. Instructors familiar with adult learners will conduct the instructional sessions. Individualization of courses will be facilitated by the use of WICAT computer assisted and managed instruction.

Demographic Data on Program Participants

At this time, validated demographic data can confirm the participation of twenty Partners and 566 employees/students in Genesee and Lapeer Counties (See Appendix B). The data reflect the substantial variability of participation: two Partners had only one employee in the program, while another Partner had 86. Twelve employers each had more than 20 employees participating: the mean participation per Partner was 28.3. Age, sex, race/ethnicity, educational background, seniority at the company, and status as regards head of household were also ascertained. Three-quarters (75 percent) of participating employees/students were between 20 and 40 years of age. Almost two-thirds (64 percent) were male. A high proportion (87 percent) indicated their race as White, 8 percent Black, with a combined total of 21 individuals (5 percent) indicating a different racial/ethnic status. Only 6 percent of our subjects had not received a high school (or equivalent) degree; 43 percent had at least some previous college experience including 9 percent with Bachelor's Degrees. More than 85 percent had been with their employers for 10 years or less and 40 percent classified themselves as the "single head of household."

Approximately seventy cases not included in this data set are individuals who completed MCC Assessment Tests for placement but did not, ultimately, participate in the program. On the other hand, many who did participate in the classes did not complete the standard package of Assessment Tools for a number of reasons, according to Project Director James Chybowski. For reasons of their own, some employers prohibited employees from taking the tests. Since many classes were customized to meet the specific needs of different employees/students and Partners, the standard package of Assessment Tests used by MCC with their regular students and curriculum did not seem relevant. Because of this variety of circumstances, test scores used for placement are available for only 214 participants (See Appendix C).

Program Effectiveness

As is stated by Thomas G. Sticht (1991)[1], "Perhaps the most vexing problem in program evaluation is the determination of whether the outcomes that are achieved are useful and justify the expenditure of public funds." (p. 8) In an effort to respond to this problem our evaluation used data from numerous sources. As was discussed in our Preliminary Evaluation (July 1992), although substantial efforts to get and analyze data on progress via the WICAT computerized training system were made, this option did not turn out to be feasible. In spite of the good intentions of several Partners, pre-post data on performance and productivity of individual participants were also determined to be unattainable.

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[1] Sticht, T.G. (1991). Evaluating National Workplace Literacy Programs. El Cajon, CA: Applied Behavioral and Cognitive Sciences, Inc.

Academic Attainment

To measure academic attainment pre-post test data for each of eight tests, six of which were specifically designed to measure progress in the seven courses, were available for analysis. The standardized Nelson-Denney test was used for reading. The seven courses are:

Communications
Reading (with separate tests for vocabulary and comprehension)
Writing
Problem Solving
Math
Human Relations
Leadership for Managers

T-tests for paired samples are provided (not simply means or medians) in order to show clearly the variability in gain scores (See Appendix D). Measured performance in each academic subject area improved significantly: Math showed the greatest pre-post differences, and the two Reading categories (Vocabulary and Comprehension[2]) the least. Research suggests that norm as opposed to criterion referenced tests are the most suitable instruments for measuring work related skills (Kutner, Sherman, Webb, and Fisher, 1991)[3].

---

[2] Although pre-post reading comprehension scores show a .076 likelihood of being different by chance alone (on the two-tail t-test). A one-tail test of the likelihood of improvement would indicate that there is only a .038 probability of this much improvement without significant learning.

[3] Kutner, M.A., Sherman, R.Z., Webb, L. and Fisher, C.J. A Review of the National Workplace Literacy Program (1991). Washington, DC: U.S. Department of Education.

Partners Survey

In order to speak more directly to the issue of "real world" value of the Workplace Literacy Project, we conducted a survey of Partners to assess their perceptions of how well the program achieved the three primary purposes for which it was originally designed. They were asked to rate on a five point scale ranging from "not fulfilled" to "extremely well fulfilled," the extent to which the program achieved the following three goals (if applicable) for the employees participating from their company (See Appendix E):

1) The goal of helping employees continue their employment.
2) The goal of helping employees advance within their careers.
3) The goal of helping employees increase their on-the-job productivity.

Eighteen of the twenty Partners (representing 492 employee participants) completed the survey (See Appendix F)[4]. In assessing attainment of the first goal, all Partners responding considered the goal of "helping employees continue their employment" at least "moderately well fulfilled" with those representing 51 percent of the employees stating it was "well" or "extremely well fulfilled."

With regard to "helping employees advance...," all Partners considered the goal at least "moderately well fulfilled," and those representing 88.4 percent of the employees said it was "well fulfilled" or "extremely well fulfilled."

In assessing how much "...helping employees increase productivity" was attained all partners, but one (who represented only 3 employees) responded that the goal was at least "moderately well fulfilled." Almost three-quarters (74.8

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[4] Data reported "missing" represents those Partners who completed the survey, but chose the response "not applicable" for a particular item.

percent) of employees were represented by Partners who claimed it was "well fulfilled" with 11.8 percent agreeing it was "extremely well fulfilled." These findings indicate an overwhelming vote of confidence by the Employer/Partners who are in the best position to assess the results of this educational program in the workplace itself.

In response to Partners Survey questions designed to assess perceptions of improvement in workers' self-esteem, morale, and attitudes toward quality and continuing education, the employers representing more than 70 percent of workers indicated no less than "substantial improvement" on all dimensions. "Extreme improvement" on self-esteem was noted for 26.4 percent of worker/students, for 36 percent on worker morale, and for 27.8 percent on attitude toward continuing education. These numbers are quite remarkable as they represent the strongest endorsement of positive change available to the Partners on this survey.

Of the eighteen Partners responding to the survey, sixteen indicated that an additional benefit derived from participation in the project was "expanded awareness of training/educational opportunities" and ten noted "increased awareness of alternative personnel policies and/or procedures." (For additional survey responses see Appendix G.)

Student Evaluations of Courses, Instructors, and Materials

In an attempt to remain informed as to the satisfactions and/or disappointments of students--and so that modifications might be instituted as the continuing program sessions and new courses evolved evaluation forms were administered to students both at mid-way and completion of each course (see

Appendix H). All seven different subject areas, eleven Partners, and fifteen different faculty members are represented by the data. In Appendix I we present extensive documentation of the results of these Final Evaluations.

Overall the evaluations indicate substantial satisfaction on the part of the students. Weighted composite course ratings of overall worth result in a median of 4.30 (on a 5 point scale with 4 meaning "Good" and 5 "Excellent"). Expectations were high and appear to have been fulfilled. Overall ratings of instructors and their knowledge of the subject matter resulted in even higher medians of 4.63 and 4.70 respectively. They could hardly be better. A substantial proportion (89 percent) said they would want their instructor again and 87 percent would recommend this class to a colleague.

Conclusions and Recommendations

Evidence has been provided to support the conclusion that the Mott Community College Workplace Literacy Program has fulfilled its mandate. It has served twenty partners and nearly 600 employees/students in a manner which has been demonstrated to have more than satisfied both groups. The students' academic accomplishments in diverse content areas have been significant and are perceived by the employers to be relevant to employee retention and advancement.

To the extent that the project continues in 1993 and beyond, the project staff might require participation and monitoring of the Partners in determining the criteria they use in recommending employees to the program and the specific goals they have for each employee. They might further select a comparison sample of employees, meeting similar demographic criteria, who are not participants to compare with participating students as regards job retention, advancement, and performance following the training program.

In addition, improved access to reporting of the WICAT data would allow for process evaluation by those responsible for curricula and program development so that there would not be such dependence on outcome results when it may be too late to implement changes affecting those particular students.

Finally, objective evaluation of such factors as self-concept and computer comfort of new students would permit post-course evaluations to detect with objective standards changes in these relevant and important dimensions.

In conclusion, while experiencing some start-up complications, the program achieved momentum and considerable success.

APPENDIX A

Course Descriptions

1991-92 WORKPLACE LITERACY/SKILLS ENHANCEMENT PROJECT

COURSE DESCRIPTIONS

MATH

021 BASIC MATHEMATICS

Counting, elementary theory of numbers, fundamental operations of both positive and negative numbers, fractions, decimals, percentages, measurement, metric system, and equations, designed to meet the needs of students who need the basis concepts of arithmetic.

101 BEGINNING ALGEBRA

Topics through the first year of high school algebra for students who did not take algebra or who need a review.

160 INTERMEDIATE ALGEBRA

Elementary topics, special products and factoring, fractions, linear equations, graphing, exponents, radicals, elementary quadratics, ratio, proportion, variation, and logarithms.

161 COLLEGE ALGEBRA

Sets and real numbers, exponents and radicals, quadratics, the binomial theorem, progressions, inequalities, complex numbers, theory of equations, matrices, and determinants.

167 ANALYTICAL GEOMETRY and CALCULUS I

Analytical geometry, functions, derivatives, and antiderivatives are introduced; algebra principles are reviewed.

1991-92 WORKPLACE LITERACY/SKILLS ENHANCEMENT PROJECT

COURSE DESCRIPTIONS

ENGLISH

098 BASIC SENTENCE SKILLS

The first stage of a two-semester basic writing sequence designed to improve the Writing skills of the students whose work has specific weaknesses in sentence structure. The course includes cumulative sentence combining, explanation of standard American grammar reinforced through regular practice and some paragraph writing.

099 BASIC WRITING

The second stage of the two-semester basic writing sequence. It continues the work on grammar and sentence skills begun in English 098. It also introduces the student to the principles of paragraph writing - focus, generalization, support, and organization.

101 ENGLISH COMPOSITION

Organization and communication of thought through theme writing, emphasizing thesis statements supported by developmental paragraphs with topic sentences and clear, convincing detail. Varied smooth related sentences and accurate word choice are also emphasized.

READING

020 READING IMPROVEMENT

A focused, hands-on, individualized program for improved reading skills such as vocabulary and comprehension.

100 READING and STUDY SKILLS DEVELOPMENT

An individualized lab course whereby competent readers may become more effective and efficient. Options, include speed reading, critical reading, concentration, test-taking, and study reading. Not a developmental course.

APPENDIX B

Demographic Frequencies

```
25 Nov 92 WPL - Demographic Frequencies

File:     WORKPLACE LITERACY (MCC)

EMPLOYER

                                                         Valid     Cum
Value Label                 Value  Frequency  Percent  Percent  Percent

Albar                           1        51      8.0      9.0      9.0
Durakon                         2        31      4.9      5.5     14.5
Johnson Control                 3        61      9.6     10.8     25.3
Lapeer Metal Product            4         3       .5       .5     25.8
Bargain Bills                   5         1       .2       .2     26.0
DuPont                          6        23      3.6      4.1     30.0
Johnson Mayhew                  7         1       .2       .2     30.2
Lucas Cirtek                    8        26      4.1      4.6     34.8
Tuar                            9         8      1.3      1.4     36.2
Troy Design                    10         1       .2       .2     36.4
Genesee Packaging              11        22      3.5      3.9     40.3
Semtron                        12        21      3.3      3.7     44.0
Hydraulic Tube/Fitti           13        47      7.4      8.3     52.3
Trayco                         14        17      2.7      3.0     55.3
Johnson Control Tech           15        86     13.5     15.2     70.5
Fernco                         16        42      6.6      7.4     77.9
Pepsi-Cola                     17        17      2.7      3.0     80.9
CMH                            18         7      1.1      1.2     82.2
Lear Seating                   19        50      7.9      8.8     91.0
Pioneer Cabinetry              20        51      8.0      9.0    100.0
                                .        70     11.0  Missing
                                    -------  -------  -------
                            Total       636    100.0    100.0

Valid cases     566      Missing cases     70

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

AGE

                                                         Valid     Cum
Value Label                 Value  Frequency  Percent  Percent  Percent

20 - 30 yrs                     1       214     33.6     38.9     38.9
31 - 40 yrs                     2       197     31.0     35.8     74.7
41 - 50 yrs                     3        98     15.4     17.8     92.5
51+ yrs                         4        41      6.4      7.5    100.0
                                .        86     13.5  Missing
                                    -------  -------  -------
                            Total       636    100.0    100.0

Valid cases     550      Missing cases     86
```

```
25 Nov 92 WPL - Demographic Frequencies

File:      WORKPLACE LITERACY (MCC)

SEX


                                                    Valid     Cum
Value Label                Value  Frequency  Percent  Percent  Percent

Male                           1        360     56.6     63.7     63.7
Female                         2        205     32.2     36.3    100.0
                               .         71     11.2   Missing
                                    -------  -------  -------
                           Total        636    100.0    100.0

Valid cases     565      Missing cases      71


- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

RACE


                                                    Valid     Cum
Value Label                Value  Frequency  Percent  Percent  Percent

Native Am/Alaskan Na           1          9      1.4      1.6      1.6
Pacific Islander               2          3       .5       .5      2.1
Black                          3         50      7.9      8.9     11.1
Hispanic                       4          8      1.3      1.4     12.5
White                          5        488     76.7     87.3     99.8
Other                          6          1       .2       .2    100.0
                               .         77     12.1   Missing
                                    -------  -------  -------
                           Total        636    100.0    100.0

Valid cases     559      Missing cases      77
```

APPENDIX C

Assessment Stats (Participants only)

```
25 Nov 92 WPL - ASSESSMENT STATS
15:56:53  TESTED PARTICIPANTS ONLY

File:     WORKPLACE LITERACY (MCC)

ENGLISH   English Placement


                                                    Valid     Cum
Value Label                Value  Frequency  Percent  Percent  Percent

                              98        91     42.5     42.7     42.7
                              99        47     22.0     22.1     64.8
                             101        75     35.0     35.2    100.0
                               .         1       .5  Missing
                                   -------  -------  -------
                           Total       214    100.0    100.0

Valid cases     213      Missing cases       1

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

MATH1     Math 1 Placement


                                                    Valid     Cum
Value Label                Value  Frequency  Percent  Percent  Percent

                              21       134     62.6     63.5     63.5
                             101        66     30.8     31.3     94.8
                             160         5      2.3      2.4     97.2
                             161         6      2.8      2.8    100.0
                               .         3      1.4  Missing
                                   -------  -------  -------
                           Total       214    100.0    100.0

Valid cases     211      Missing cases       3

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

MATH2     Math 2 Placement


                                                    Valid     Cum
Value Label                Value  Frequency  Percent  Percent  Percent

                              20       149     69.6     71.3     71.3
                              21         2       .9      1.0     72.2
                             100        58     27.1     27.8    100.0
                               .         5      2.3  Missing
                                   -------  -------  -------
                           Total       214    100.0    100.0

Valid cases     209      Missing cases       5
```

```
25 Nov 92 WPL - ASSESSMENT STATS
15:56:55  TESTED PARTICIPANTS ONLY

File:     WORKPLACE LITERACY (MCC)

READVOC   Reading Voc Placement


Mean         12.311     Std err         .276     Median      13.300
Mode         16.900     Std dev        4.025     Variance    16.202
Kurtosis      3.809     S E Kurt        .332     Skewness    -1.608
S E Skew       .167     Range         20.500     Minimum     -3.600
Maximum      16.900     Sum         2622.300


Valid cases     213     Missing cases      1

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

READCOMP  Reading Comp Placement


Mean          9.718     Std err         .330     Median      10.500
Mode         10.000     Std dev        4.816     Variance    23.196
Kurtosis      1.054     S E Kurt        .332     Skewness     -.999
S E Skew       .167     Range         20.500     Minimum     -3.600
Maximum      16.900     Sum         2069.900


Valid cases     213     Missing cases      1

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

READWPM   Reading WPM Placement


Mean        196.662     Std err        5.154     Median     197.000
Mode        174.000     Std dev       73.065     Variance  5338.485
Kurtosis       .787     S E Kurt        .341     Skewness      .271
S E Skew       .172     Range        473.000     Minimum      5.000
Maximum     478.000     Sum        39529.000


Valid cases     201     Missing cases     13
```

```
25 Nov 92 WPL - Demographic Frequencies

File:     WORKPLACE LITERACY (MCC)

ED        Educational Background


                                                              Valid     Cum
Value Label                    Value  Frequency  Percent   Percent   Percent

Not HS Grad                        1         34      5.3       6.0       6.0
HS Grad                            2        247     38.8      43.9      49.3
Adult HS Grad                      3         18      2.8       3.2      53.1
GED                                4         21      3.3       3.7      56.8
Some College                       5        164     25.8      29.1      86.0
Associate Degree                   6         26      4.1       4.6      90.6
Bachelor's Degree                  7         44      6.9       7.8      98.4
Post Grad                          8          9      1.4       1.6     100.0
                                   .         73     11.5   Missing
                                       -------  -------   -------
                               Total        636    100.0     100.0

Valid cases     563      Missing cases     73

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

SEN       Seniority


                                                              Valid     Cum
Value Label                    Value  Frequency  Percent   Percent   Percent

1 - 10 yrs                         1        472     74.2      85.4      85.4
11 - 20 yrs                        2         67     10.5      12.1      97.5
21 - 29 yrs                        3         13      2.0       2.4      99.8
30+ yrs                            4          1       .2        .2     100.0
                                   .         83     13.1   Missing
                                       -------  -------   -------
                               Total        636    100.0     100.0

Valid cases     553      Missing cases     83
```

```
File:      WORKPLACE LITERACY (MCC)

SHH        Single Head of Household?

                                                         Valid     Cum
Value Label                  Value  Frequency  Percent  Percent  Percent

Yes                              1        220     34.6     40.1     40.1
No                               2        328     51.6     59.9    100.0
                                 .         88     13.8  Missing
                                      -------  -------  -------
                             Total        636    100.0    100.0

Valid cases      548      Missing cases      88

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

ASSESS     Assessment Testing

                                                         Valid     Cum
Value Label                  Value  Frequency  Percent  Percent  Percent

Yes                              1        284     44.7     44.7     44.7
No                               2        352     55.3     55.3    100.0
                                      -------  -------  -------
                             Total        636    100.0    100.0

Valid cases      636      Missing cases       0

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

SCORES     Pre-Post Scores

                                                         Valid     Cum
Value Label                  Value  Frequency  Percent  Percent  Percent

Yes                              1        458     72.0     72.0     72.0
No                               2        178     28.0     28.0    100.0
                                      -------  -------  -------
                             Total        636    100.0    100.0

Valid cases      636      Missing cases       0
```

```
25 Nov 92 WPL - Demographic Frequencies

File:     WORKPLACE LITERACY (MCC)

DEMOGRPH  Demographics


                                                         Valid      Cum
Value Label                  Value  Frequency  Percent  Percent  Percent

Yes                              1        566     89.0     89.0     89.0
No                               2         70     11.0     11.0    100.0
                                    -------  -------  -------
                             Total        636    100.0    100.0

Valid cases     636      Missing cases       0
```

```
25 Nov 92 WPL - Demographic Frequencies

File:     WORKPLACE LITERACY (MCC)

ASSESS  Assessment Testing  by  SCORES  Pre-Post Scores

                      SCORES       Page 1 of 1
             Count
            Row Pct  Yes      No
            Col Pct                      Row
            Tot Pct      1         2     Total
ASSESS      --------------------------
                  1    146       138       284
  Yes                 51.4      48.6      44.7
                      31.9      77.5
                      23.0      21.7
                     ------------------
                  2    312        40       352
  No                  88.6      11.4      55.3
                      68.1      22.5
                      49.1       6.3
                     ------------------
             Column    458       178       636
              Total   72.0      28.0     100.0

Number of Missing Observations:  0
```

```
25 Nov 92 WPL - Demographic Frequencies

File:      WORKPLACE LITERACY (MCC)

ASSESS  Assessment Testing  by  DEMOGRPH  Demographics

                    DEMOGRPH        Page 1 of 1
             Count |
           Row Pct |Yes      No
           Col Pct |                  Row
           Tot Pct |     1  |     2  | Total
ASSESS     --------+--------+--------+
              1    |   214  |    70  |   284
  Yes              |  75.4  |  24.6  |  44.7
                   |  37.8  | 100.0  |
                   |  33.6  |  11.0  |
                   +--------+--------+
              2    |   352  |        |   352
  No               | 100.0  |        |  55.3
                   |  62.2  |        |
                   |  55.3  |        |
                   +--------+--------+
             Column    566       70      636
              Total   89.0     11.0    100.0

Number of Missing Observations:  0
```

```
25 Nov 92 WPL - Demographic Frequencies

File:     WORKPLACE LITERACY (MCC)

SCORES  Pre-Post Scores  by  DEMOGRPH  Demographics

                    DEMOGRPH     Page 1 of 1
           Count   |
           Row Pct |Yes      No
           Col Pct |                  Row
           Tot Pct |      1 |      2 | Total
SCORES   ----------+--------+--------+
                 1 |    458 |        |    458
  Yes              |  100.0 |        |   72.0
                   |   80.9 |        |
                   |   72.0 |        |
                   +--------+--------+
                 2 |    108 |     70 |    178
  No               |   60.7 |   39.3 |   28.0
                   |   19.1 |  100.0 |
                   |   17.0 |   11.0 |
                   +--------+--------+
            Column      566       70      636
             Total     89.0     11.0    100.0

Number of Missing Observations:  0
```

APPENDIX D

T-tests for paired samples

```
25 Nov 92 WPL: T-TESTS FOR EACH CLASS

File:     WORKPLACE LITERACY (MCC)
                    - - - t-tests for paired samples - - -


                         Number of          2-tail
 Variable                  pairs     Corr    Sig        Mean        SD     SE of Mean
 ----------------------------------------------------------------------------------
 COMMPRE  Communications Pretest                      57.2523     15.623      1.483
                            111       .324   .001
 COMMPOST  Communications Posttest                    75.2252     14.339      1.361
 ----------------------------------------------------------------------------------


         Paired Differences        |
 Mean          SD        SE of Mean |       t-value     df   2-tail Sig
 ----------------------------------|-----------------------------------
-17.9730     17.456        1.657    |        -10.85    110        .000
 95% CI (-21.257, -14.689)          |


                         Number of          2-tail
 Variable                  pairs     Corr    Sig        Mean        SD     SE of Mean
 ----------------------------------------------------------------------------------
 READPREV  Reading Pretest: Voc                       10.3720      4.744       .949
                            25        .848   .000
 READPSTV  Reading Posttest: Voc                      11.6840      2.860       .572
 ----------------------------------------------------------------------------------


         Paired Differences        |
 Mean          SD        SE of Mean |       t-value     df   2-tail Sig
 ----------------------------------|-----------------------------------
 -1.3120      2.769         .554    |         -2.37     24        .026
 95% CI (-2.455, -.169)             |


                         Number of          2-tail
 Variable                  pairs     Corr    Sig        Mean        SD     SE of Mean
 ----------------------------------------------------------------------------------
 READPREC  Reading Pretest: Comp                       6.1640      5.089      1.018
                            25        .575   .003
 READPSTC  Reading Posttest: Comp                      8.0480      5.847      1.169
 ----------------------------------------------------------------------------------


         Paired Differences        |
 Mean          SD        SE of Mean |       t-value     df   2-tail Sig
 ----------------------------------|-----------------------------------
 -1.8840      5.084        1.017    |         -1.85     24        .076
 95% CI (-3.983, .215)              |
```

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```
25 Nov 92 WPL: T-TESTS FOR EACH CLASS

File:     WORKPLACE LITERACY (MCC)
                                     - - - t-tests for paired samples - - -

                         Number of          2-tail
 Variable                  pairs     Corr    Sig        Mean        SD      SE of Mean
 ------------------------------------------------------------------------------------
 WRITPRE  Writing Pretest                              57.8710     11.655      2.093
                            31       .531   .002
 WRITPOST  Writing Posttest                            71.1290     11.153      2.003
 ------------------------------------------------------------------------------------


         Paired Differences          |
 Mean          SD         SE of Mean |        t-value     df   2-tail Sig
 ------------------------------------ ----------------------------------------
-13.2581     11.048       1.984      |         -6.68      30        .000
 95% CI (-17.312, -9.205)            |


                         Number of          2-tail
 Variable                  pairs     Corr    Sig        Mean        SD      SE of Mean
 ------------------------------------------------------------------------------------
 PROBPRE  Problem Solving Pretest                      51.0811     22.702      2.639
                            74      -.676   .000
 PROBPOST  Problem Solving Posttest                    89.1486     11.843      1.377
 ------------------------------------------------------------------------------------


         Paired Differences          |
 Mean          SD         SE of Mean |        t-value     df   2-tail Sig
 ------------------------------------ ----------------------------------------
-38.0676     31.924       3.711      |        -10.26      73        .000
 95% CI (-45.465, -30.670)           |


                         Number of          2-tail
 Variable                  pairs     Corr    Sig        Mean        SD      SE of Mean
 ------------------------------------------------------------------------------------
 MATHPRE  Math Pretest                                 50.6867     26.062      2.861
                            83       .635   .000
 MATHPOST  Math Posttest                               81.2651     20.200      2.217
 ------------------------------------------------------------------------------------


         Paired Differences          |
 Mean          SD         SE of Mean |        t-value     df   2-tail Sig
 ------------------------------------ ----------------------------------------
-30.5783     20.472       2.247      |        -13.61      82        .000
 95% CI (-35.049, -26.107)           |
25 Nov 92 WPL: T-TESTS FOR EACH CLASS

File:     WORKPLACE LITERACY (MCC)
                     - - - t-tests for paired samples - - -


                     Number of          2-tail
 Variable              pairs     Corr    Sig        Mean         SD      SE of Mean
 ----------------------------------------------------------------------------------
 HRPRE  Human Relations Pretest                    45.8615      13.147       1.259
                        109      .411    .000
 HRPOST  Human Relations Posttest                  87.9789      10.272        .984
 ----------------------------------------------------------------------------------


         Paired Differences          |
 Mean          SD        SE of Mean  |       t-value      df   2-tail Sig
 ----------------------------------- ------------------------------------
-42.1174      12.941       1.240     |        -33.98     108        .000
 95% CI (-44.575, -39.660)           |


                     Number of          2-tail
 Variable              pairs     Corr    Sig        Mean         SD      SE of Mean
 ----------------------------------------------------------------------------------
 LMPRE  Leadership for Managers - PRE              69.7815      10.521       1.012
                       108      .607    .000
 LMPOST  Leadership for Managers - POST            79.2491      10.111        .973
 ----------------------------------------------------------------------------------


         Paired Differences          |
 Mean          SD        SE of Mean  |       t-value      df   2-tail Sig
 ----------------------------------- ------------------------------------
 -9.4676       9.150        .880     |        -10.75     107        .000
 95% CI (-11.213, -7.722)            |
```

APPENDIX E

Partners Survey

WORKPLACE LITERACY PROJECT
PARTNERS SURVEY

In order to help Mott Community College better understand the extent to which the workplace literacy project classes have met their goals and your needs, please respond to the following questions. Your participation is voluntary and will be reported in aggregate form with individual responses maintained in confidence. The completed questionnaire should be submitted directly to the project evaluator.

Ronald E Silverman, Ph.D.
c/o PURA
University of Michigan-Flint
303 E Kearsley
Flint, MI 48502-2186

The three goals of the classes are stated below. For each please indicate to what extent they have been fulfilled for the employees of your company by ***circling*** *the number of the appropriate category.*

RESPONSES

1 = Extremely well fulfilled
2 = well fulfilled
3 = moderately fulfilled
4 = marginally fulfilled
5 = not fulfilled
6 = not applicable

1. **The goal of helping employees continue their employment.**

   1 2 3 4 5 6

2. **The goal of helping employees advance within their careers.**

   1 2 3 4 5 6

3. **The goal of helping employees increase their on-the-job productivity.**

   1 2 3 4 5 6

Meetings with partner representatives led to the disclosure of some additional employer goals for employees:

These four goals are listed below. Please *circle* the number corresponding to the extent of improvement for employee participants for your company.

RESPONSES
1 = extreme improvement
2 = substantial improvement
3 = moderate improvement
4 = marginal improvement
5 = no improvement
6 = not applicable

4.	**Self-esteem**	1	2	3	4	5	6
5.	**Worker morale**	1	2	3	4	5	6
6.	**Attitude toward quality**	1	2	3	4	5	6
7.	**Attitude toward continuing education**	1	2	3	4	5	6

For the following, place a check next to each of the items which indicate a benefit that you or your company have derived by participation in this project.

8. ______ **Expanded awareness of training/educational opportunities.**

9. ______ **Networking with employer representatives of other companies in your region.**

10. ______ **Increased awareness of alternative production methods.**

11. ______ **Increased awareness of alternative personal policies and/or procedures.**

12. ______ **Other (please specify)** ____

____

Additional comments concerning project strengths and/or weaknesses as they relate to your specific company's participation are very much appreciated.

Please return this completed questionnaire in the enclosed envelope no later than September 1, 1992. Thank you for your assistance.

APPENDIX F

Partners Survey Frequencies

```
07 Dec 92 WPL - PARTNERS SURVEY FREQUENCIES [SUPPLEMENT]

File:     WORKPLACE LITERACY (MCC)

Q1        Helping employees continue


                                                            Valid      Cum
Value Label                  Value   Frequency   Percent   Percent   Percent

Extremely well fulfi             1           1       5.6       7.1       7.1
Well fulfilled                   2           6      33.3      42.9      50.0
Moderately fulfilled             3           7      38.9      50.0     100.0
                                 .           4      22.2   Missing
                                       -------   -------   -------
                             Total          18     100.0     100.0

Valid cases      14      Missing cases       4

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

Q2        Helping employees advance


                                                            Valid      Cum
Value Label                  Value   Frequency   Percent   Percent   Percent

Extremely well fulfi             1           3      16.7      17.6      17.6
Well fulfilled                   2          10      55.6      58.8      76.5
Moderately fulfilled             3           4      22.2      23.5     100.0
                                 .           1       5.6   Missing
                                       -------   -------   -------
                             Total          18     100.0     100.0

Valid cases      17      Missing cases       1

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

Q3        Helping employees increase productivity


                                                            Valid      Cum
Value Label                  Value   Frequency   Percent   Percent   Percent

Extremely well fulfi             1           3      16.7      18.8      18.8
Well fulfilled                   2           9      50.0      56.3      75.0
Moderately fulfilled             3           3      16.7      18.8      93.8
Marginally fulfilled             4           1       5.6       6.3     100.0
                                 .           2      11.1   Missing
                                       -------   -------   -------
                             Total          18     100.0     100.0

Valid cases      16      Missing cases       2
```

```
File:     WORKPLACE LITERACY (MCC)

Q4        Self-esteem

                                                             Valid     Cum
Value Label                      Value  Frequency  Percent  Percent  Percent

Extreme improvement                  1          4     22.2     23.5     23.5
Substantial improvem                 2         11     61.1     64.7     88.2
Moderate improvement                 3          2     11.1     11.8    100.0
                                     .          1      5.6  Missing
                                          -------  -------  -------
                                 Total         18    100.0    100.0

Valid cases      17      Missing cases       1

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

Q5        Worker morale

                                                             Valid     Cum
Value Label                      Value  Frequency  Percent  Percent  Percent

Extreme improvement                  1          4     22.2     23.5     23.5
Substantial improvem                 2          6     33.3     35.3     58.8
Moderate improvement                 3          6     33.3     35.3     94.1
Marginal improvement                 4          1      5.6      5.9    100.0
                                     .          1      5.6  Missing
                                          -------  -------  -------
                                 Total         18    100.0    100.0

Valid cases      17      Missing cases       1

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

Q6        Attitude toward quality

                                                             Valid     Cum
Value Label                      Value  Frequency  Percent  Percent  Percent

Extreme improvement                  1          1      5.6      5.9      5.9
Substantial improvem                 2         11     61.1     64.7     70.6
Moderate improvement                 3          4     22.2     23.5     94.1
Marginal improvement                 4          1      5.6      5.9    100.0
                                     .          1      5.6  Missing
                                          -------  -------  -------
                                 Total         18    100.0    100.0

Valid cases      17      Missing cases       1
```

```
07 Dec 92 WPL - PARTNERS SURVEY FREQUENCIES [SUPPLEMENT]

File:    WORKPLACE LITERACY (MCC)

Q7       Attitude toward cont. educ.


Value Label                                          Valid     Cum
                          Value  Frequency  Percent  Percent  Percent

Extreme improvement          1          6     33.3     35.3     35.3
Substantial improvem         2          8     44.4     47.1     82.4
Moderate improvement         3          3     16.7     17.6    100.0
                             .          1      5.6  Missing
                                  -------  -------  -------
                         Total         18    100.0    100.0

Valid cases      17      Missing cases      1
```

```
07 Dec 92 WPL - PARTNERS SURVEY FREQUENCIES [SUPPLEMENT]
16:18:11  (Weighted by number of employees)

File:     WORKPLACE LITERACY (MCC)

Q1        Helping employees continue


                                                        Valid     Cum
Value Label                 Value  Frequency  Percent  Percent  Percent

Extremely well fulfi            1         23      4.7      6.8      6.8
Well fulfilled                  2        150     30.5     44.2     51.0
Moderately fulfilled            3        166     33.7     49.0    100.0
                                .        153     31.1  Missing
                                     -------  -------  -------
                            Total        492    100.0    100.0

Valid cases     339      Missing cases    153

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

Q2        Helping employees advance


                                                        Valid     Cum
Value Label                 Value  Frequency  Percent  Percent  Percent

Extremely well fulfi            1         35      7.1      7.8      7.8
Well fulfilled                  2        363     73.8     80.7     88.4
Moderately fulfilled            3         52     10.6     11.6    100.0
                                .         42      8.5  Missing
                                     -------  -------  -------
                            Total        492    100.0    100.0

Valid cases     450      Missing cases     42

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

Q3        Helping employees increase productivity


                                                        Valid     Cum
Value Label                 Value  Frequency  Percent  Percent  Percent

Extremely well fulfi            1         51     10.4     11.8     11.8
Well fulfilled                  2        324     65.9     74.8     86.6
Moderately fulfilled            3         55     11.2     12.7     99.3
Marginally fulfilled            4          3       .6       .7    100.0
                                .         59     12.0  Missing
                                     -------  -------  -------
                            Total        492    100.0    100.0

Valid cases     433      Missing cases     59
```

```
07 Dec 92 WPL - PARTNERS SURVEY FREQUENCIES [SUPPLEMENT]
16:18:11  (Weighted by number of employees)

File:      WORKPLACE LITERACY (MCC)

Q4         Self-esteem

                                                           Valid     Cum
Value Label                    Value  Frequency  Percent  Percent  Percent

Extreme improvement                1        119     24.2     26.4     26.4
Substantial improvem               2        267     54.3     59.3     85.8
Moderate improvement               3         64     13.0     14.2    100.0
                                   .         42      8.5  Missing
                                        -------  -------  -------
                               Total        492    100.0    100.0

Valid cases      450      Missing cases      42

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

Q5         Worker morale

                                                           Valid     Cum
Value Label                    Value  Frequency  Percent  Percent  Percent

Extreme improvement                1        162     32.9     36.0     36.0
Substantial improvem               2        163     33.1     36.2     72.2
Moderate improvement               3         94     19.1     20.9     93.1
Marginal improvement               4         31      6.3      6.9    100.0
                                   .         42      8.5  Missing
                                        -------  -------  -------
                               Total        492    100.0    100.0

Valid cases      450      Missing cases      42

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

Q6         Attitude toward quality

                                                           Valid     Cum
Value Label                    Value  Frequency  Percent  Percent  Percent

Substantial improvem               2        319     64.8     70.9     70.9
Moderate improvement               3        130     26.4     28.9     99.8
Marginal improvement               4          1       .2       .2    100.0
                                   .         42      8.5  Missing
                                        -------  -------  -------
                               Total        492    100.0    100.0

Valid cases      450      Missing cases      42
```

```
07 Dec 92 WPL - PARTNERS SURVEY FREQUENCIES [SUPPLEMENT]
16:18:11  (Weighted by number of employees)

File:     WORKPLACE LITERACY (MCC)

Q7        Attitude toward cont. educ.


                                                        Valid     Cum
Value Label                  Value  Frequency  Percent  Percent  Percent

Extreme improvement              1        125     25.4     27.8     27.8
Substantial improvem             2        273     55.5     60.7     88.4
Moderate improvement             3         52     10.6     11.6    100.0
                                 .         42      8.5  Missing
                                      -------  -------  -------
                             Total        492    100.0    100.0

Valid cases     450      Missing cases     42
```

APPENDIX G

Partners Survey Frequencies

```
25 Nov 92 WPL - PARTNERS SURVEY FREQUENCIES

File:     WORKPLACE LITERACY (MCC)

Q8        Expanded awareness of opportunities

                                                     Valid     Cum
Value Label               Value  Frequency  Percent  Percent  Percent

Yes                           1         16     88.9     88.9     88.9
No                            2          2     11.1     11.1    100.0
                                   -------  -------  -------
                          Total         18    100.0    100.0

Valid cases      18     Missing cases      0

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

Q9        Networking with reps

                                                     Valid     Cum
Value Label               Value  Frequency  Percent  Percent  Percent

Yes                           1          6     33.3     33.3     33.3
No                            2         12     66.7     66.7    100.0
                                   -------  -------  -------
                          Total         18    100.0    100.0

Valid cases      18     Missing cases      0
```

```
25 Nov 92 WPL - PARTNERS SURVEY FREQUENCIES

File:     WORKPLACE LITERACY (MCC)

Q10       Increased awareness of alt. methods

                                                   Valid     Cum
Value Label             Value  Frequency  Percent  Percent  Percent

Yes                         1          3     16.7     16.7     16.7
No                          2         15     83.3     83.3    100.0
                                 -------  -------  -------
                        Total         18    100.0    100.0

Valid cases      18     Missing cases      0

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

Q11       Increased awareness of alt. policies/pro

                                                   Valid     Cum
Value Label             Value  Frequency  Percent  Percent  Percent

Yes                         1         10     55.6     55.6     55.6
No                          2          8     44.4     44.4    100.0
                                 -------  -------  -------
                        Total         18    100.0    100.0

Valid cases      18     Missing cases      0

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

Q12A      Increased confidence

                                                   Valid     Cum
Value Label             Value  Frequency  Percent  Percent  Percent

Yes                         1          1      5.6    100.0    100.0
                            .         17     94.4  Missing
                                 -------  -------  -------
                        Total         18    100.0    100.0

Valid cases       1     Missing cases     17
```

```
25 Nov 92 WPL - PARTNERS SURVEY FREQUENCIES

File:      WORKPLACE LITERACY (MCC)

Q12B       Inc. desire to expand work knowledge

                                                        Valid     Cum
Value Label                 Value  Frequency  Percent  Percent  Percent

Yes                             1          1      5.6    100.0    100.0
                                .         17     94.4  Missing
                                     -------  -------  -------
                            Total         18    100.0    100.0

Valid cases        1      Missing cases      17

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

Q12C       Better communications skills

                                                        Valid     Cum
Value Label                 Value  Frequency  Percent  Percent  Percent

Yes                             1          1      5.6    100.0    100.0
                                .         17     94.4  Missing
                                     -------  -------  -------
                            Total         18    100.0    100.0

Valid cases        1      Missing cases      17

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

Q12D       Dealing with responsibilty

                                                        Valid     Cum
Value Label                 Value  Frequency  Percent  Percent  Percent

                                .         18    100.0  Missing
                                     -------  -------  -------
                            Total         18    100.0    100.0

Valid cases        0      Missing cases      18
```

```
File:     WORKPLACE LITERACY (MCC)
Q12E      Dealing with anger / emotion

                                                        Valid     Cum
Value Label                  Value  Frequency  Percent  Percent  Percent

Yes                              1          1      5.6    100.0    100.0
                                 .         17     94.4  Missing
                                      -------  -------  -------
                             Total         18    100.0    100.0

Valid cases       1      Missing cases      17

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
Q12F      Proacting vs. Reacting

                                                        Valid     Cum
Value Label                  Value  Frequency  Percent  Percent  Percent

Yes                              1          1      5.6    100.0    100.0
                                 .         17     94.4  Missing
                                      -------  -------  -------
                             Total         18    100.0    100.0

Valid cases       1      Missing cases      17

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
Q12G      On-going Supported Education for Agency

                                                        Valid     Cum
Value Label                  Value  Frequency  Percent  Percent  Percent

Yes                              1          1      5.6    100.0    100.0
                                 .         17     94.4  Missing
                                      -------  -------  -------
                             Total         18    100.0    100.0

Valid cases       1      Missing cases      17
```

```
File:     WORKPLACE LITERACY (MCC)

Q8        Expanded awareness of opportunities

                                                         Valid     Cum
Value Label                  Value  Frequency  Percent  Percent  Percent

Yes                              1        433     88.0     88.0     88.0
No                               2         59     12.0     12.0    100.0
                                      -------  -------  -------
                             Total        492    100.0    100.0

Valid cases     492      Missing cases       0

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

Q9        Networking with reps

                                                         Valid     Cum
Value Label                  Value  Frequency  Percent  Percent  Percent

Yes                              1        185     37.6     37.6     37.6
No                               2        307     62.4     62.4    100.0
                                      -------  -------  -------
                             Total        492    100.0    100.0

Valid cases     492      Missing cases       0
```

```
25 Nov 92 WPL - PARTNERS SURVEY FREQUENCIES
15:13:42  (Weighted by number of employees)

File:     WORKPLACE LITERACY (MCC)

Q10       Increased awareness of alt. methods

                                                       Valid     Cum
Value Label                 Value  Frequency  Percent  Percent  Percent

Yes                             1        138     28.0     28.0     28.0
No                              2        354     72.0     72.0    100.0
                                   -------  -------  -------
                            Total        492    100.0    100.0

Valid cases      492      Missing cases       0

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

Q11       Increased awareness of alt. policies/pro

                                                       Valid     Cum
Value Label                 Value  Frequency  Percent  Percent  Percent

Yes                             1        280     56.9     56.9     56.9
No                              2        212     43.1     43.1    100.0
                                   -------  -------  -------
                            Total        492    100.0    100.0

Valid cases      492      Missing cases       0

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

Q12A      Increased confidence

                                                       Valid     Cum
Value Label                 Value  Frequency  Percent  Percent  Percent

Yes                             1         26      5.3    100.0    100.0
                                .        466     94.7  Missing
                                   -------  -------  -------
                            Total        492    100.0    100.0

Valid cases       26      Missing cases     466
```

```
25 Nov 92 WPL - PARTNERS SURVEY FREQUENCIES
15:13:42  (Weighted by number of employees)

File:     WORKPLACE LITERACY (MCC)

Q12B      Inc. desire to expand work knowledge

                                                            Valid     Cum
Value Label                       Value  Frequency  Percent  Percent  Percent

Yes                                   1        26      5.3    100.0    100.0
                                      .       466     94.7  Missing
                                          -------  -------  -------
                                  Total       492    100.0    100.0

Valid cases       26      Missing cases     466

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

Q12C      Better communications skills

                                                            Valid     Cum
Value Label                       Value  Frequency  Percent  Percent  Percent

Yes                                   1        50     10.2    100.0    100.0
                                      .       442     89.8  Missing
                                          -------  -------  -------
                                  Total       492    100.0    100.0

Valid cases       50      Missing cases     442

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

Q12D      Dealing with responsibilty

                                                            Valid     Cum
Value Label                       Value  Frequency  Percent  Percent  Percent

                                      .       492    100.0  Missing
                                          -------  -------  -------
                                  Total       492    100.0    100.0

Valid cases        0      Missing cases     492
```

```
File:      WORKPLACE LITERACY (MCC)

Q12E       Dealing with anger / emotion

                                                        Valid     Cum
Value Label               Value  Frequency  Percent   Percent   Percent

Yes                           1         86     17.5     100.0     100.0
                              .        406     82.5   Missing
                                   -------  -------   -------
                          Total        492    100.0     100.0

Valid cases      86      Missing cases    406

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

Q12F       Proacting vs. Reacting

                                                        Valid     Cum
Value Label               Value  Frequency  Percent   Percent   Percent

Yes                           1         86     17.5     100.0     100.0
                              .        406     82.5   Missing
                                   -------  -------   -------
                          Total        492    100.0     100.0

Valid cases      86      Missing cases    406

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

Q12G       On-going Supported Education for Agency

                                                        Valid     Cum
Value Label               Value  Frequency  Percent   Percent   Percent

Yes                           1          7      1.4     100.0     100.0
                              .        485     98.6   Missing
                                   -------  -------   -------
                          Total        492    100.0     100.0

Valid cases       7      Missing cases    485
```

APPENDIX H

Mid and Final Evaluation Forms

Mott Community College
BUSINESS & INDUSTRY TRAINING

Date ____________

Course # ____________
Section # ____________

FINAL EVALUATION FORM

COURSE TITLE ______________________________

NAME OF COMPANY ______________________________

INSTRUCTOR ______________________________

	POOR	*FAIR*	*AVERAGE*	*GOOD*	*EXCELLENT*
COURSE IN GENERAL					
What overall rating would you give this course?	1	2	3.	4	5
Did the course content meet your expectations?	1	2	3	4	5
Was a sufficient amount of time given to cover the material?	1	2	3	4	5
Was the material well organized?	1	2	3	4	5

Would you recommend this class to a colleague? *(circle one)* Yes No

	POOR	*FAIR*	*AVERAGE*	*GOOD*	*EXCELLENT*
INSTRUCTOR					
What overall rating would you give the instructor?	1	2	3	4	5
How would you rate the instructor's knowledge of the subject matter?	1	2	3	4	5
How would you rate the effectiveness of the instructor's lectures?	1	2	3	4	5

Would you want this instructor again? *(circle one)* Yes No

COURSE MATERIALS

How would you rate the effectiveness of: *(Rate only if the method was used)*

	POOR	*FAIR*	*AVERAGE*	*GOOD*	*EXCELLENT*
- visual aids	1	2	3	4	5
- course textbooks	1	2	3	4	5
- handouts	1	2	3	4	5
- hands-on activities 1	1	2	3	4	5

(OVER)

WHAT DO YOU CONSIDER TO BE THE STRONG FEATURES OF THIS COURSE?

WILL THIS COURSE HELP YOU TO PERFORM YOUR JOB BETTER? WHY OR WHY NOT?

WHAT COULD BE CHANGED TO IMPROVE THIS COURSE?

WHAT OTHER CLASSES WOULD YOU LIKE TO SEE OFFERED?

ADDITIONAL COMMENTS/SUGGESTIONS:

THANK YOU FOR YOUR ASSISTANCE

/mk
Rev. 8/90

MOTT COMMUNITY COLLEGE
Business & Industry Training

Date ____________

Course # ____________
Section # ____________

MID EVALUATION FORM

COURSE TITLE ____________

NAME OF COMPANY ____________

INSTRUCTOR ____________

JOB TITLE ____________

YEARS OF SERVICE ____________

	POOR	FAIR	AVERAGE	GOOD	EXCELLENT
How would you rate the physical facilities?	1	2	3	4	5
Are the topics being covered relevant to your work?	1	2	3	4	5
How well does the instructor answer questions that are asked?	1	2	3	4	5
Are ideas freely exchanged?	1	2	3	4	5

The class content is: *(circle one)* Too Basic Too Advanced Just Right

Does the class begin on time? *(circle one)* Yes No

WHAT DO YOU CONSIDER TO BE THE STRONG FEATURES OF THIS COURSE TO DATE?

WHAT COULD BE CHANGED TO IMPROVE THIS COURSE?

ADDITIONAL COMMENTS/SUGGESTIONS:

3 117

/mk
Rev. 3/90

THANK YOU FOR YOUR ASSISTANCE

APPENDIX I

Evaluations of Courses, Instructors, and Materials (weighted)

The seventy four valid cases refer to the number of composite evaluation forms provided for data analysis; individual student responses were not available. Means reported are thus actually "means of the means" for each question: modes are not meaningful. Other statistics are an accurate reflection of the composite forms only. Weighted data are based on the number of students reported on each composite form; this number was used to "explode" the dataset to represent the 591 students that completed an evaluation form.

```
18 Nov 92 WPL - EVALUATIONS: Frequencies

File:     WORKPLACE LITERACY (MCC)

COURSE

                                                            Valid     Cum
Value Label                     Value  Frequency  Percent  Percent  Percent

Communications                      1         18     24.3     24.3     24.3
Human Relations                     2         14     18.9     18.9     43.2
Math                                3         10     13.5     13.5     56.8
Problem Solving                     4         12     16.2     16.2     73.0
Reading                             5          7      9.5      9.5     82.4
Writing                             6          6      8.1      8.1     90.5
Learning for Manager                7          7      9.5      9.5    100.0
                                           -------  -------  -------
                                    Total       74    100.0    100.0

Valid cases      74      Missing cases       0

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

COMPANY

                                                            Valid     Cum
Value Label                     Value  Frequency  Percent  Percent  Percent

Albar                               1          4      5.4      6.5      6.5
Johnson Control                     3          6      8.1      9.7     16.1
Semtron                            12          1      1.4      1.6     17.7
Hydraulic Tube & Fit               13          3      4.1      4.8     22.6
Johnson Control Tech               15          4      5.4      6.5     29.0
Fernco                             16          2      2.7      3.2     32.3
Pepsi-Cola                         17          2      2.7      3.2     35.5
Lear Seating                       19          8     10.8     12.9     48.4
Pioneer Cabinetry                  20          3      4.1      4.8     53.2
Lapeer Co. Partners                90         10     13.5     16.1     69.4
Lapeer                             91          7      9.5     11.3     80.6
                                   92         12     16.2     19.4    100.0
                                    .         12     16.2  Missing
                                           -------  -------  -------
                                    Total       74    100.0    100.0

Valid cases      62      Missing cases      12
```

```
File:      WORKPLACE LITERACY (MCC)

TEACHER

                                                        Valid     Cum
Value Label                  Value  Frequency  Percent  Percent  Percent

Carson                           0         18     24.3     24.7     24.7
Duncan                           1          3      4.1      4.1     28.8
Falkenstein                      2          2      2.7      2.7     31.5
Griffin                          3         13     17.6     17.8     49.3
Mulcahey                         4          3      4.1      4.1     53.4
Newman                           5          8     10.8     11.0     64.4
Pelton                           6          4      5.4      5.5     69.9
Peterson                         7          2      2.7      2.7     72.6
Post                             8          3      4.1      4.1     76.7
Steffey                          9          3      4.1      4.1     80.8
Green                           10          4      5.4      5.5     86.3
Toet                            11          1      1.4      1.4     87.7
Dada                            12          2      2.7      2.7     90.4
Rudnick                         13          2      2.7      2.7     93.2
Thull                           14          1      1.4      1.4     94.5
Bliesath                        15          4      5.4      5.5    100.0
                                 .          1      1.4  Missing
                                      -------  -------  -------
                             Total         74    100.0    100.0

Valid cases      73      Missing cases       1
```

```
18 Nov 92 WPL - EVALUATIONS: Frequencies

File:     WORKPLACE LITERACY (MCC)

OVERALL   Gen:  Overall Rating


Mean            4.299     Std err         .060     Median        4.390
Mode            4.800     Std dev         .513     Variance       .263
Range           2.200     Minimum        2.800     Maximum       5.000


Valid cases        74     Missing cases      0

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CONTENT   Gen: did course content meet expectation


Mean            4.074     Std err         .069     Median        4.100
Mode            4.000     Std dev         .590     Variance       .349
Range           2.800     Minimum        2.200     Maximum       5.000


Valid cases        74     Missing cases      0

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TIME      Gen: was sufficient time given


Mean            3.958     Std err         .075     Median        4.150
Mode            4.300     Std dev         .645     Variance       .416
Range           3.750     Minimum        1.250     Maximum       5.000

* Multiple modes exist.  The smallest value is shown.


Valid cases        74     Missing cases      0

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ORGANIZD  Gen: was material well organized


Mean            4.348     Std err         .072     Median        4.500
Mode            4.600     Std dev         .620     Variance       .385
Range           4.400     Minimum        2.600     Maximum       7.000


Valid cases        74     Missing cases      0
```

```
18 Nov 92 WPL - EVALUATIONS: Frequencies

File:     WORKPLACE LITERACY (MCC)

OVERALLI  Instructor:  Overall rating


Mean            4.566      Std err         .067      Median        4.700
Mode            5.000      Std dev         .577      Variance       .333
Range           4.000      Minimum        2.000      Maximum       6.000


Valid cases       74       Missing cases      0

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KNOWLEDG  Instructor: Knowledge of subject matter


Mean            4.631      Std err         .055      Median        4.800
Mode            5.000      Std dev         .474      Variance       .225
Range           2.400      Minimum        2.600      Maximum       5.000


Valid cases       74       Missing cases      0

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EFFECTIV  Instructor: Effectiveness of lectures


Mean            4.391      Std err         .068      Median        4.550
Mode            4.800      Std dev         .588      Variance       .345
Range           2.600      Minimum        2.400      Maximum       5.000


Valid cases       74       Missing cases      0

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VISUALS   Materials:  Visual Aids


Mean            4.191      Std err         .081      Median        4.300
Mode            4.300      Std dev         .685      Variance       .469
Range           5.000      Minimum        2.000      Maximum       7.000

* Multiple modes exist.  The smallest value is shown.


Valid cases       71       Missing cases      3
```

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18 Nov 92 WPL - EVALUATIONS: Frequencies

File:     WORKPLACE LITERACY (MCC)

TEXTS     Materials:  Textbooks


Mean            3.730     Std err        .106     Median        4.000
Mode            4.000     Std dev        .856     Variance       .732
Range           4.000     Minimum       1.000     Maximum       5.000


Valid cases       65      Missing cases     9

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HANDOUT   Materials:  Handouts


Mean            4.210     Std err        .067     Median        4.300
Mode            4.500     Std dev        .579     Variance       .336
Range           3.500     Minimum       1.500     Maximum       5.000


Valid cases       74      Missing cases     0

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HANDSON   Materials:  Hands on activities


Mean            4.254     Std err        .059     Median        4.300
Mode            4.000     Std dev        .503     Variance       .253
Range           2.000     Minimum       3.000     Maximum       5.000


Valid cases       72      Missing cases     2

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REC_Y     Recommend - Yes: % of students


Mean             .872     Std err        .024     Median        1.000
Mode            1.000     Std dev        .204     Variance       .041
Range           1.000     Minimum        .000     Maximum       1.000


Valid cases       74      Missing cases     0
```

```
File:     WORKPLACE LITERACY (MCC)

REC_N     Recommend - No: % of students


Mean              .066      Std err        .018      Median          .000
Mode              .000      Std dev        .152      Variance        .023
Range             .800      Minimum        .000      Maximum         .800

Valid cases        74       Missing cases     0

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WT_Y      Want again - Yes: % of students


Mean              .904      Std err        .021      Median         1.000
Mode             1.000      Std dev        .181      Variance        .033
Range            1.000      Minimum        .000      Maximum        1.000

Valid cases        74       Missing cases     0

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WT_N      Want again - No: % of students


Mean              .060      Std err        .018      Median          .000
Mode              .000      Std dev        .151      Variance        .023
Range             .800      Minimum        .000      Maximum         .800

Valid cases        74       Missing cases     0
```

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18 Nov 92 WPL - EVALUATIONS: Frequencies (weighted)

File:     WORKPLACE LITERACY (MCC)

COURSE


                                                           Valid     Cum
Value Label                   Value  Frequency  Percent  Percent  Percent

Communications                    1        130     22.0     22.0     22.0
Human Relations                   2        124     21.0     21.0     43.0
Math                              3        107     18.1     18.1     61.1
Problem Solving                   4         97     16.4     16.4     77.5
Reading                           5         32      5.4      5.4     82.9
Writing                           6         51      8.6      8.6     91.5
Learning for Manager              7         50      8.5      8.5    100.0
                                           -------  -------  -------
                                  Total        591    100.0    100.0

Valid cases     591      Missing cases      0


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COMPANY


                                                           Valid     Cum
Value Label                   Value  Frequency  Percent  Percent  Percent

Albar                             1         55      9.3     11.2     11.2
Johnson Control                   3         47      8.0      9.5     20.7
Semtron                          12         21      3.6      4.3     24.9
Hydraulic Tube & Fit             13         19      3.2      3.9     28.8
Johnson Control Tech             15         21      3.6      4.3     33.1
Fernco                           16         39      6.6      7.9     41.0
Pepsi-Cola                       17         10      1.7      2.0     43.0
Lear Seating                     19         78     13.2     15.8     58.8
Pioneer Cabinetry                20         49      8.3      9.9     68.8
Lapeer Co. Partners              90         51      8.6     10.3     79.1
Lapeer                           91         41      6.9      8.3     87.4
                                 92         62     10.5     12.6    100.0
                                  .         98     16.6  Missing
                                           -------  -------  -------
                                  Total        591    100.0    100.0

Valid cases     493      Missing cases     98
```

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18 Nov 92 WPL - EVALUATIONS: Frequencies (weighted)

File:     WORKPLACE LITERACY (MCC)

TEACHER

                                                     Valid     Cum
Value Label               Value  Frequency  Percent  Percent  Percent

Carson                        0        140     23.7     24.0     24.0
Duncan                        1         47      8.0      8.1     32.1
Falkenstein                   2         14      2.4      2.4     34.5
Griffin                       3        144     24.4     24.7     59.2
Mulcahey                      4         20      3.4      3.4     62.6
Newman                        5         36      6.1      6.2     68.8
Pelton                        6         16      2.7      2.7     71.5
Peterson                      7         22      3.7      3.8     75.3
Post                          8         17      2.9      2.9     78.2
Steffey                       9         21      3.6      3.6     81.8
Green                        10         35      5.9      6.0     87.8
Toet                         11          2       .3       .3     88.2
Dada                         12          8      1.4      1.4     89.5
Rudnick                      13         19      3.2      3.3     92.8
Thull                        14         11      1.9      1.9     94.7
Bliesath                     15         31      5.2      5.3    100.0
                              .          8      1.4  Missing
                                   -------  -------  -------
                          Total        591    100.0    100.0

Valid cases     583      Missing cases      8
```

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18 Nov 92 WPL - EVALUATIONS: Frequencies (weighted)

File:     WORKPLACE LITERACY (MCC)

OVERALL   Gen:  Overall Rating

Mean             4.220      Std err          .022      Median          4.300
Mode             4.300      Std dev          .533      Variance         .284
Range            2.200      Minimum         2.800      Maximum         5.000

* Multiple modes exist.  The smallest value is shown.

Valid cases      591        Missing cases      0

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CONTENT   Gen: did course content meet expectation

Mean             4.028      Std err          .024      Median          4.100
Mode             4.100      Std dev          .576      Variance         .332
Range            2.800      Minimum         2.200      Maximum         5.000

Valid cases      591        Missing cases      0

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TIME      Gen: was sufficient time given

Mean             3.893      Std err          .024      Median          4.000
Mode             4.500      Std dev          .581      Variance         .337
Range            3.750      Minimum         1.250      Maximum         5.000

Valid cases      591        Missing cases      0

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ORGANIZD  Gen: was material well organized

Mean             4.293      Std err          .025      Median          4.380
Mode             4.600      Std dev          .618      Variance         .382
Range            4.400      Minimum         2.600      Maximum         7.000

Valid cases      591        Missing cases      0
```

```
18 Nov 92 WPL - EVALUATIONS: Frequencies (weighted)

File:     WORKPLACE LITERACY (MCC)

OVERALLI  Instructor:  Overall rating


Mean            4.490      Std err         .026     Median         4.630
Mode            5.000      Std dev         .626     Variance        .392
Range           4.000      Minimum        2.000     Maximum        6.000


Valid cases       591      Missing cases      0

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KNOWLEDG  Instructor: Knowledge of subject matter


Mean            4.567      Std err         .021     Median         4.700
Mode            5.000      Std dev         .507     Variance        .257
Range           2.400      Minimum        2.600     Maximum        5.000


Valid cases       591      Missing cases      0

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EFFECTIV  Instructor: Effectiveness of lectures


Mean            4.313      Std err         .027     Median         4.500
Mode            4.800      Std dev         .658     Variance        .432
Range           2.600      Minimum        2.400     Maximum        5.000


Valid cases       591      Missing cases      0

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VISUALS   Materials:  Visual Aids


Mean            4.241      Std err         .032     Median         4.300
Mode            4.300      Std dev         .767     Variance        .589
Range           5.000      Minimum        2.000     Maximum        7.000


Valid cases       565      Missing cases     26
```

```
18 Nov 92 WPL - EVALUATIONS: Frequencies (weighted)

File:     WORKPLACE LITERACY (MCC)

TEXTS     Materials:  Textbooks


Mean            3.676     Std err         .034     Median         3.900
Mode            4.000     Std dev         .804     Variance        .647
Range           4.000     Minimum        1.000     Maximum        5.000

Valid cases       544     Missing cases     47

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HANDOUT   Materials:  Handouts


Mean            4.181     Std err         .023     Median         4.250
Mode            4.000     Std dev         .556     Variance        .310
Range           3.500     Minimum        1.500     Maximum        5.000

Valid cases       591     Missing cases      0

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HANDSON   Materials:  Hands on activities


Mean            4.203     Std err         .023     Median         4.300
Mode            4.500     Std dev         .548     Variance        .300
Range           2.000     Minimum        3.000     Maximum        5.000

Valid cases       586     Missing cases      5

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REC_Y     Recommend - Yes: % of students


Mean             .871     Std err         .007     Median          .909
Mode            1.000     Std dev         .181     Variance        .033
Range           1.000     Minimum         .000     Maximum        1.000

Valid cases       591     Missing cases      0
```

BEST COPY AVAILABLE

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18 Nov 92 WPL - EVALUATIONS: Frequencies (weighted)

File:      WORKPLACE LITERACY (MCC)

REC_N      Recommend - No: % of students


Mean              .074       Std err          .005       Median           .000
Mode              .000       Std dev          .132       Variance         .017
Range             .800       Minimum          .000       Maximum          .800


Valid cases      591       Missing cases       0

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WT_Y       Want again - Yes: % of students


Mean              .892       Std err          .007       Median          1.000
Mode             1.000       Std dev          .174       Variance         .030
Range            1.000       Minimum          .000       Maximum         1.000


Valid cases      591       Missing cases       0

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WT_N       Want again - No: % of students


Mean              .081       Std err          .006       Median           .000
Mode              .000       Std dev          .155       Variance         .024
Range             .800       Minimum          .000       Maximum          .800


Valid cases      591       Missing cases       0
```

```
18 Nov 92 WPL - EVALUATIONS: Freqs for Comm (weighted)

File:      WORKPLACE LITERACY (MCC)

OVERALL    Gen:  Overall Rating


Mean            4.180      Std err         .033      Median          4.200
Mode            4.300      Std dev         .376      Variance         .142
Range           1.640      Minimum        3.200      Maximum         4.840

Valid cases      130       Missing cases       0

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CONTENT    Gen: did course content meet expectation

Mean            3.999      Std err         .038      Median          4.000
Mode            4.000      Std dev         .431      Variance         .185
Range           2.400      Minimum        2.600      Maximum         5.000

Valid cases      130       Missing cases       0

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TIME       Gen: was sufficient time given

Mean            3.970      Std err         .032      Median          3.800
Mode            3.800      Std dev         .367      Variance         .135
Range           1.330      Minimum        3.300      Maximum         4.630

Valid cases      130       Missing cases       0

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ORGANIZD   Gen: was material well organized

Mean            4.264      Std err         .043      Median          4.300
Mode            4.200      Std dev         .487      Variance         .237
Range           2.400      Minimum        2.600      Maximum         5.000

Valid cases      130       Missing cases       0
```

```
18 Nov 92 WPL - EVALUATIONS: Freqs for Comm (weighted)

File:     WORKPLACE LITERACY (MCC)

OVERALLI  Instructor:  Overall rating


Mean          4.559      Std err        .048      Median        4.600
Mode          4.500      Std dev        .552      Variance       .305
Range         3.000      Minimum       2.000      Maximum       5.000


Valid cases     130      Missing cases      0

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KNOWLEDG  Instructor: Knowledge of subject matter


Mean          4.584      Std err        .042      Median        4.600
Mode          5.000      Std dev        .476      Variance       .227
Range         2.400      Minimum       2.600      Maximum       5.000


Valid cases     130      Missing cases      0

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EFFECTIV  Instructor: Effectiveness of lectures


Mean          4.384      Std err        .041      Median        4.400
Mode          4.700      Std dev        .472      Variance       .223
Range         2.480      Minimum       2.400      Maximum       4.880


Valid cases     130      Missing cases      0

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VISUALS   Materials:  Visual Aids


Mean          4.603      Std err        .105      Median        4.300
Mode          4.300      Std dev       1.192      Variance      1.422
Range         5.000      Minimum       2.000      Maximum       7.000


Valid cases     130      Missing cases      0
```

```
18 Nov 92 WPL - EVALUATIONS: Freqs for Comm (weighted)

File:      WORKPLACE LITERACY (MCC)

TEXTS      Materials:  Textbooks


Mean            3.291     Std err       .074     Median        3.200
Mode            2.600     Std dev       .791     Variance       .625
Range           3.000     Minimum      1.500     Maximum       4.500


Valid cases      114      Missing cases    16

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HANDOUT    Materials:  Handouts


Mean            3.971     Std err       .051     Median        4.000
Mode            4.100     Std dev       .582     Variance       .339
Range           3.250     Minimum      1.500     Maximum       4.750


Valid cases      130      Missing cases     0

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HANDSON    Materials:  Hands on activities


Mean            4.147     Std err       .033     Median        4.295
Mode            4.500     Std dev       .380     Variance       .144
Range           1.670     Minimum      3.000     Maximum       4.670


Valid cases      130      Missing cases     0

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REC_Y      Recommend - Yes: % of students


Mean             .885     Std err       .015     Median         .909
Mode            1.000     Std dev       .175     Variance       .031
Range            .800     Minimum       .200     Maximum       1.000


Valid cases      130      Missing cases     0
```

```
18 Nov 92 WPL - EVALUATIONS: Freqs for Comm (weighted)

File:     WORKPLACE LITERACY (MCC)

REC_N     Recommend - No: % of students


Mean            .085      Std err        .014      Median          .048
Mode            .000      Std dev        .159      Variance        .025
Range           .800      Minimum        .000      Maximum         .800


Valid cases      130      Missing cases     0

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WT_Y      Want again - Yes: % of students


Mean            .923      Std err        .017      Median         1.000
Mode           1.000      Std dev        .196      Variance        .038
Range          1.000      Minimum        .000      Maximum        1.000


Valid cases      130      Missing cases     0

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WT_N      Want again - No: % of students


Mean            .069      Std err        .014      Median          .000
Mode            .000      Std dev        .160      Variance        .026
Range           .800      Minimum        .000      Maximum         .800


Valid cases      130      Missing cases     0
```

```
18 Nov 92 WPL - EVALUATIONS: Freqs for Human Rel (weighted)

File:     WORKPLACE LITERACY (MCC)

OVERALL   Gen:  Overall Rating


Mean          4.037      Std err        .059      Median        3.800
Mode          3.310      Std dev        .653      Variance       .426
Range         1.690      Minimum       3.310      Maximum       5.000


Valid cases     124      Missing cases      0

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CONTENT   Gen: did course content meet expectation


Mean          3.875      Std err        .058      Median        3.700
Mode          3.250      Std dev        .642      Variance       .413
Range         2.000      Minimum       3.000      Maximum       5.000


Valid cases     124      Missing cases      0

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TIME      Gen: was sufficient time given


Mean          3.948      Std err        .047      Median        3.900
Mode          3.440      Std dev        .523      Variance       .274
Range         1.800      Minimum       3.200      Maximum       5.000


Valid cases     124      Missing cases      0

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ORGANIZD  Gen: was material well organized


Mean          3.980      Std err        .065      Median        3.800
Mode          3.060      Std dev        .720      Variance       .518
Range         1.940      Minimum       3.060      Maximum       5.000


Valid cases     124      Missing cases      0
```

```
18 Nov 92 WPL - EVALUATIONS: Freqs for Human Rel (weighted)

File:     WORKPLACE LITERACY (MCC)

OVERALLI  Instructor:  Overall rating


Mean            4.011      Std err         .072      Median        3.730
Mode            3.250      Std dev         .798      Variance       .636
Range           1.900      Minimum        3.100      Maximum       5.000


Valid cases      124       Missing cases      0

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KNOWLEDG  Instructor: Knowledge of subject matter


Mean            4.113      Std err         .061      Median        3.870
Mode            3.500      Std dev         .678      Variance       .460
Range           1.700      Minimum        3.300      Maximum       5.000


Valid cases      124       Missing cases      0

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EFFECTIV  Instructor: Effectiveness of lectures


Mean            3.807      Std err         .081      Median        3.470
Mode            2.940      Std dev         .905      Variance       .819
Range           2.200      Minimum        2.800      Maximum       5.000


Valid cases      124       Missing cases      0

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VISUALS   Materials:  Visual Aids


Mean            4.011      Std err         .041      Median        3.750
Mode            3.750      Std dev         .458      Variance       .210
Range           1.700      Minimum        3.300      Maximum       5.000


Valid cases      124       Missing cases      0
```

```
18 Nov 92 WPL - EVALUATIONS: Freqs for Human Rel (weighted)

File:     WORKPLACE LITERACY (MCC)

TEXTS     Materials:  Textbooks


Mean          3.285      Std err        .055      Median        3.600
Mode          2.670      Std dev        .607      Variance       .369
Range         1.500      Minimum       2.500      Maximum       4.000


Valid cases     121      Missing cases      3

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HANDOUT   Materials:  Handouts


Mean          4.025      Std err        .054      Median        3.900
Mode          3.270      Std dev        .606      Variance       .368
Range         1.530      Minimum       3.270      Maximum       4.800


Valid cases     124      Missing cases      0

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HANDSON   Materials:  Hands on activities


Mean          3.928      Std err        .063      Median        3.500
Mode          3.220      Std dev        .695      Variance       .483
Range         1.780      Minimum       3.220      Maximum       5.000


Valid cases     121      Missing cases      3

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REC_Y     Recommend - Yes: % of students


Mean           .839      Std err        .011      Median         .875
Mode           .875      Std dev        .128      Variance       .016
Range          .400      Minimum        .600      Maximum       1.000

* Multiple modes exist.  The smallest value is shown.


Valid cases     124      Missing cases      0
```

```
18 Nov 92 WPL - EVALUATIONS: Freqs for Human Rel (weighted)

File:      WORKPLACE LITERACY (MCC)

REC_N      Recommend - No: % of students


Mean              .081      Std err         .008      Median          .100
Mode              .000      Std dev         .088      Variance        .008
Range             .267      Minimum         .000      Maximum         .267


Valid cases      124      Missing cases       0

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WT_Y       Want again - Yes: % of students


Mean              .806      Std err         .017      Median          .750
Mode             1.000      Std dev         .188      Variance        .035
Range             .500      Minimum         .500      Maximum        1.000


Valid cases      124      Missing cases       0

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WT_N       Want again - No: % of students


Mean              .145      Std err         .017      Median          .000
Mode              .000      Std dev         .189      Variance        .036
Range             .500      Minimum         .000      Maximum         .500


Valid cases      124      Missing cases       0
```

```
18 Nov 92 WPL - EVALUATIONS: Freqs for Math (weighted)

File:     WORKPLACE LITERACY (MCC)

OVERALL   Gen:  Overall Rating


Mean           4.498      Std err         .040      Median         4.790
Mode           4.790      Std dev         .410      Variance        .168
Range          1.200      Minimum        3.800      Maximum        5.000


Valid cases      107      Missing cases      0

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CONTENT   Gen: did course content meet expectation


Mean           4.309      Std err         .038      Median         4.500
Mode           4.100      Std dev         .392      Variance        .154
Range          1.300      Minimum        3.700      Maximum        5.000


Valid cases      107      Missing cases      0

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TIME      Gen: was sufficient time given


Mean           4.076      Std err         .051      Median         4.100
Mode           4.500      Std dev         .530      Variance        .281
Range          1.700      Minimum        2.800      Maximum        4.500


Valid cases      107      Missing cases      0

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ORGANIZD  Gen: was material well organized


Mean           4.751      Std err         .069      Median         4.600
Mode           4.790      Std dev         .710      Variance        .505
Range          3.200      Minimum        3.800      Maximum        7.000


Valid cases      107      Missing cases      0
```

```
File:     WORKPLACE LITERACY (MCC)

OVERALLI  Instructor:  Overall rating


Mean           4.895      Std err        .038      Median        5.000
Mode           5.000      Std dev        .396      Variance       .157
Range          1.700      Minimum       4.300      Maximum       6.000


Valid cases      107      Missing cases      0

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KNOWLEDG  Instructor: Knowledge of subject matter


Mean           4.840      Std err        .015      Median        4.900
Mode           5.000      Std dev        .153      Variance       .024
Range           .400      Minimum       4.600      Maximum       5.000


Valid cases      107      Missing cases      0

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EFFECTIV  Instructor: Effectiveness of lectures


Mean           4.659      Std err        .028      Median        4.800
Mode           4.860      Std dev        .294      Variance       .086
Range          1.000      Minimum       4.000      Maximum       5.000


Valid cases      107      Missing cases      0

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VISUALS   Materials:  Visual Aids


Mean           4.394      Std err        .052      Median        4.500
Mode           5.000      Std dev        .540      Variance       .292
Range          1.600      Minimum       3.400      Maximum       5.000


Valid cases      107      Missing cases      0
```

```
File:     WORKPLACE LITERACY (MCC)

TEXTS     Materials:  Textbooks


Mean            4.173      Std err         .066      Median          4.100
Mode            4.100      Std dev         .679      Variance         .461
Range           2.300      Minimum        2.500      Maximum         4.800


Valid cases       105      Missing cases      2

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HANDOUT   Materials:  Handouts


Mean            4.666      Std err         .020      Median          4.700
Mode            4.850      Std dev         .212      Variance         .045
Range            .700      Minimum        4.300      Maximum         5.000


Valid cases       107      Missing cases      0

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HANDSON   Materials:  Hands on activities


Mean            4.533      Std err         .048      Median          4.500
Mode            5.000      Std dev         .495      Variance         .245
Range           1.600      Minimum        3.400      Maximum         5.000


Valid cases       105      Missing cases      2

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REC_Y     Recommend - Yes: % of students


Mean             .841      Std err         .025      Median           .864
Mode            1.000      Std dev         .263      Variance         .069
Range           1.000      Minimum         .000      Maximum         1.000


Valid cases       107      Missing cases      0
```

```
18 Nov 92 WPL - EVALUATIONS: Freqs for Math (weighted)

File:     WORKPLACE LITERACY (MCC)

REC_N     Recommend - No: % of students


Mean             .084      Std err        .013      Median          .000
Mode             .000      Std dev        .137      Variance        .019
Range            .500      Minimum        .000      Maximum         .500


Valid cases      107       Missing cases     0

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WT_Y      Want again - Yes: % of students


Mean             .916      Std err        .008      Median          .929
Mode            1.000      Std dev        .087      Variance        .008
Range            .500      Minimum        .500      Maximum        1.000


Valid cases      107       Missing cases     0

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WT_N      Want again - No: % of students


Mean             .037      Std err        .006      Median          .000
Mode             .000      Std dev        .059      Variance        .003
Range            .167      Minimum        .000      Maximum         .167


Valid cases      107       Missing cases     0
```

```
File:     WORKPLACE LITERACY (MCC)

OVERALL   Gen:  Overall Rating

Mean            4.079     Std err         .063     Median        4.300
Mode            4.300     Std dev         .622     Variance       .387
Range           2.200     Minimum        2.800     Maximum       5.000

Valid cases        97     Missing cases      0

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CONTENT   Gen: did course content meet expectation

Mean            4.051     Std err         .081     Median        4.130
Mode            4.800     Std dev         .797     Variance       .635
Range           2.600     Minimum        2.200     Maximum       4.800

Valid cases        97     Missing cases      0

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TIME      Gen: was sufficient time given

Mean            3.751     Std err         .081     Median        4.200
Mode            4.200     Std dev         .799     Variance       .638
Range           3.150     Minimum        1.250     Maximum       4.400

Valid cases        97     Missing cases      0

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ORGANIZD  Gen: was material well organized

Mean            4.234     Std err         .048     Median        4.300
Mode            4.300     Std dev         .475     Variance       .226
Range           1.900     Minimum        3.000     Maximum       4.900

* Multiple modes exist.  The smallest value is shown.

Valid cases        97     Missing cases      0
```

```
18 Nov 92 WPL - EVALUATIONS: Freqs for Prob Solv (weighted)

File:     WORKPLACE LITERACY (MCC)

OVERALLI  Instructor:  Overall rating


Mean            4.435      Std err        .058      Median         4.630
Mode            4.800      Std dev        .569      Variance        .324
Range           1.800      Minimum       3.200      Maximum        5.000


Valid cases       97      Missing cases      0

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KNOWLEDG  Instructor: Knowledge of subject matter


Mean            4.607      Std err        .042      Median         4.720
Mode            4.800      Std dev        .411      Variance        .169
Range           1.300      Minimum       3.700      Maximum        5.000

* Multiple modes exist.  The smallest value is shown.


Valid cases       97      Missing cases      0

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EFFECTIV  Instructor: Effectiveness of lectures


Mean            4.210      Std err        .076      Median         4.500
Mode            4.500      Std dev        .744      Variance        .554
Range           2.500      Minimum       2.500      Maximum        5.000


Valid cases       97      Missing cases      0

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VISUALS   Materials:  Visual Aids


Mean            4.198      Std err        .043      Median         4.100
Mode            4.100      Std dev        .419      Variance        .175
Range           1.400      Minimum       3.400      Maximum        4.800


Valid cases       93      Missing cases      4
```

```
18 Nov 92 WPL - EVALUATIONS: Freqs for Prob Solv (weighted)

File:     WORKPLACE LITERACY (MCC)

TEXTS     Materials:  Textbooks


Mean            3.551      Std err        .088      Median        3.700
Mode            3.700      Std dev        .845      Variance       .714
Range           3.600      Minimum       1.000      Maximum       4.600


Valid cases        93      Missing cases       4

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HANDOUT   Materials:  Handouts


Mean            4.062      Std err        .050      Median        4.090
Mode            4.000      Std dev        .494      Variance       .244
Range           1.800      Minimum       3.100      Maximum       4.900


Valid cases        97      Missing cases       0

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HANDSON   Materials:  Hands on activities


Mean            4.149      Std err        .044      Median        4.300
Mode            4.400      Std dev        .435      Variance       .190
Range           1.500      Minimum       3.200      Maximum       4.700


Valid cases        97      Missing cases       0

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REC_Y     Recommend - Yes: % of students


Mean             .804      Std err        .020      Median         .727
Mode            1.000      Std dev        .192      Variance       .037
Range            .750      Minimum        .250      Maximum       1.000


Valid cases        97      Missing cases       0
```

```
File:      WORKPLACE LITERACY (MCC)

REC_N      Recommend - No: % of students

Mean              .113      Std err        .019      Median         .000
Mode              .000      Std dev        .183      Variance       .033
Range             .750      Minimum        .000      Maximum        .750

Valid cases        97       Missing cases     0

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

WT_Y       Want again - Yes: % of students

Mean              .825      Std err        .023      Median         .947
Mode             1.000      Std dev        .223      Variance       .050
Range             .667      Minimum        .333      Maximum       1.000

Valid cases        97       Missing cases     0

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WT_N       Want again - No: % of students

Mean              .113      Std err        .018      Median         .000
Mode              .000      Std dev        .182      Variance       .033
Range             .500      Minimum        .000      Maximum        .500

Valid cases        97       Missing cases     0
```

```
18 Nov 92 WPL - EVALUATIONS: Freqs for Reading (weighted)

File:     WORKPLACE LITERACY (MCC)

OVERALL   Gen:  Overall Rating


Mean          4.500      Std err        .051      Median        4.500
Mode          4.500      Std dev        .291      Variance       .084
Range         1.130      Minimum       3.670      Maximum       4.800


Valid cases      32      Missing cases      0

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CONTENT   Gen: did course content meet expectation


Mean          3.814      Std err        .107      Median        3.800
Mode          3.170      Std dev        .603      Variance       .364
Range         1.430      Minimum       3.170      Maximum       4.600


Valid cases      32      Missing cases      0

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TIME      Gen: was sufficient time given


Mean          3.813      Std err        .132      Median        3.400
Mode          3.170      Std dev        .747      Variance       .558
Range         1.830      Minimum       3.170      Maximum       5.000


Valid cases      32      Missing cases      0

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ORGANIZD  Gen: was material well organized


Mean          4.502      Std err        .059      Median        4.600
Mode          4.670      Std dev        .334      Variance       .112
Range         1.330      Minimum       3.670      Maximum       5.000


Valid cases      32      Missing cases      0
```

```
18 Nov 92 WPL - EVALUATIONS: Freqs for Reading (weighted)

File:     WORKPLACE LITERACY (MCC)

OVERALLI  Instructor:  Overall rating


Mean           4.906      Std err         .036      Median        5.000
Mode           5.000      Std dev         .202      Variance       .041
Range           .670      Minimum        4.330      Maximum       5.000


Valid cases       32      Missing cases      0

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KNOWLEDG  Instructor: Knowledge of subject matter


Mean           4.875      Std err         .035      Median        5.000
Mode           5.000      Std dev         .200      Variance       .040
Range           .670      Minimum        4.330      Maximum       5.000


Valid cases       32      Missing cases      0

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EFFECTIV  Instructor: Effectiveness of lectures


Mean           4.593      Std err         .029      Median        4.600
Mode           4.500      Std dev         .166      Variance       .028
Range           .670      Minimum        4.330      Maximum       5.000


Valid cases       32      Missing cases      0

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VISUALS   Materials:  Visual Aids


Mean           3.922      Std err         .139      Median        4.500
Mode           3.000      Std dev         .785      Variance       .616
Range          2.000      Minimum        3.000      Maximum       5.000


Valid cases       32      Missing cases      0
```

```
18 Nov 92 WPL - EVALUATIONS: Freqs for Reading (weighted)

File:     WORKPLACE LITERACY (MCC)

TEXTS     Materials:  Textbooks


Mean           4.532     Std err        .080     Median        4.500
Mode           4.500     Std dev        .450     Variance       .203
Range          1.330     Minimum       3.670     Maximum       5.000

* Multiple modes exist.  The smallest value is shown.


Valid cases       32     Missing cases     0

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HANDOUT   Materials:  Handouts


Mean           4.328     Std err        .049     Median        4.500
Mode           4.500     Std dev        .280     Variance       .078
Range           .830     Minimum       3.670     Maximum       4.500


Valid cases       32     Missing cases     0

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HANDSON   Materials:  Hands on activities


Mean           4.578     Std err        .058     Median        4.700
Mode           4.750     Std dev        .327     Variance       .107
Range          1.330     Minimum       3.670     Maximum       5.000


Valid cases       32     Missing cases     0

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REC_Y     Recommend - Yes: % of students


Mean            .969     Std err        .017     Median        1.000
Mode           1.000     Std dev        .099     Variance       .010
Range           .333     Minimum        .667     Maximum       1.000


Valid cases       32     Missing cases     0
```

```
18 Nov 92 WPL - EVALUATIONS: Freqs for Reading (weighted)

File:     WORKPLACE LITERACY (MCC)

REC_N     Recommend - No: % of students


Mean              .000      Std err          .000      Mode             .000
Std dev           .000      Variance         .000      Range            .000
Minimum           .000      Maximum          .000


Valid cases        32       Missing cases       0

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

WT_Y      Want again - Yes: % of students


Mean              .969      Std err          .017      Median          1.000
Mode             1.000      Std dev          .099      Variance         .010
Range             .333      Minimum          .667      Maximum         1.000


Valid cases        32       Missing cases       0

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

WT_N      Want again - No: % of students


Mean              .000      Std err          .000      Mode             .000
Std dev           .000      Variance         .000      Range            .000
Minimum           .000      Maximum          .000


Valid cases        32       Missing cases       0
```

```
18 Nov 92 WPL - EVALUATIONS: Freqs for Writing (weighted)
File:     WORKPLACE LITERACY (MCC)
OVERALL   Gen:  Overall Rating

Mean           4.170     Std err         .079     Median         3.800
Mode           3.640     Std dev         .562     Variance        .316
Range          1.260     Minimum        3.640     Maximum        4.900

Valid cases       51     Missing cases      0

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CONTENT   Gen: did course content meet expectation

Mean           3.833     Std err         .071     Median         3.600
Mode           3.450     Std dev         .507     Variance        .257
Range          1.450     Minimum        3.450     Maximum        4.900

Valid cases       51     Missing cases      0

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

TIME      Gen: was sufficient time given

Mean           3.600     Std err         .091     Median         3.200
Mode           3.110     Std dev         .647     Variance        .419
Range          1.790     Minimum        3.110     Maximum        4.900

Valid cases       51     Missing cases      0

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

ORGANIZD  Gen: was material well organized

Mean           4.193     Std err         .069     Median         4.000
Mode           3.720     Std dev         .493     Variance        .243
Range          1.180     Minimum        3.720     Maximum        4.900

Valid cases       51     Missing cases      0
```

```
18 Nov 92 WPL - EVALUATIONS: Freqs for Writing (weighted)

File:     WORKPLACE LITERACY (MCC)

OVERALLI  Instructor:  Overall rating


Mean           4.408      Std err        .061     Median        4.200
Mode           4.000      Std dev        .436     Variance       .190
Range          1.000      Minimum       4.000     Maximum       5.000


Valid cases       51      Missing cases      0

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KNOWLEDG  Instructor: Knowledge of subject matter


Mean           4.687      Std err        .044     Median        4.720
Mode           4.720      Std dev        .317     Variance       .100
Range          1.000      Minimum       4.000     Maximum       5.000


Valid cases       51      Missing cases      0

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EFFECTIV  Instructor: Effectiveness of lectures


Mean           4.426      Std err        .048     Median        4.270
Mode           4.270      Std dev        .341     Variance       .116
Range          1.000      Minimum       3.900     Maximum       4.900


Valid cases       51      Missing cases      0

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VISUALS   Materials:  Visual Aids


Mean           3.948      Std err        .136     Median        3.700
Mode           3.000      Std dev        .732     Variance       .536
Range          1.800      Minimum       3.000     Maximum       4.800

* Multiple modes exist.  The smallest value is shown.


Valid cases       29      Missing cases     22
```

```
18 Nov 92 WPL - EVALUATIONS: Freqs for Writing (weighted)

File:      WORKPLACE LITERACY (MCC)

TEXTS      Materials:  Textbooks


Mean            4.141       Std err         .134       Median         4.500
Mode            4.500       Std dev         .722       Variance        .521
Range           1.700       Minimum        3.000       Maximum        4.700


Valid cases        29       Missing cases     22

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

HANDOUT    Materials:  Handouts


Mean            4.413       Std err         .044       Median         4.220
Mode            4.220       Std dev         .313       Variance        .098
Range            .800       Minimum        4.200       Maximum        5.000


Valid cases        51       Missing cases      0

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HANDSON    Materials:  Hands on activities


Mean            4.365       Std err         .057       Median         4.300
Mode            4.000       Std dev         .405       Variance        .164
Range           1.000       Minimum        4.000       Maximum        5.000


Valid cases        51       Missing cases      0

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

REC_Y      Recommend - Yes: % of students


Mean             .961       Std err         .010       Median         1.000
Mode            1.000       Std dev         .070       Variance        .005
Range            .200       Minimum         .800       Maximum        1.000


Valid cases        51       Missing cases      0
```

```
18 Nov 92 WPL - EVALUATIONS: Freqs for Writing (weighted)

File:      WORKPLACE LITERACY (MCC)

REC_N      Recommend - No: % of students


Mean              .020      Std err        .008      Median          .000
Mode              .000      Std dev        .060      Variance        .004
Range             .200      Minimum        .000      Maximum         .200


Valid cases        51       Missing cases      0

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WT_Y       Want again - Yes: % of students


Mean              .980      Std err        .006      Median         1.000
Mode             1.000      Std dev        .046      Variance        .002
Range             .125      Minimum        .875      Maximum        1.000


Valid cases        51       Missing cases      0

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

WT_N       Want again - No: % of students


Mean              .098      Std err        .025      Median          .000
Mode              .000      Std dev        .181      Variance        .033
Range             .500      Minimum        .000      Maximum         .500


Valid cases        51       Missing cases      0
```

```
18 Nov 92 WPL - EVALUATIONS: Freqs for Learning for Managers (weighted

File:     WORKPLACE LITERACY (MCC)

OVERALL   Gen:  Overall Rating


Mean            4.332     Std err        .049     Median        4.400
Mode            4.800     Std dev        .344     Variance       .118
Range            .900     Minimum       3.900     Maximum       4.800


Valid cases        50     Missing cases       0

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

CONTENT   Gen: did course content meet expectation


Mean            4.168     Std err        .040     Median        4.200
Mode            3.800     Std dev        .280     Variance       .079
Range            .800     Minimum       3.800     Maximum       4.600


Valid cases        50     Missing cases       0

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

TIME      Gen: was sufficient time given


Mean            3.796     Std err        .053     Median        3.600
Mode            3.600     Std dev        .374     Variance       .140
Range           1.200     Minimum       3.400     Maximum       4.600


Valid cases        50     Missing cases       0

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

ORGANIZD  Gen: was material well organized


Mean            4.244     Std err        .037     Median        4.100
Mode            4.100     Std dev        .265     Variance       .070
Range            .900     Minimum       4.100     Maximum       5.000


Valid cases        50     Missing cases       0
```

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18 Nov 92 WPL - EVALUATIONS: Freqs for Learning for Managers (weighted

File:     WORKPLACE LITERACY (MCC)

OVERALLI  Instructor:  Overall rating


Mean           4.556      Std err         .031      Median         4.600
Mode           4.300      Std dev         .219      Variance        .048
Range           .600      Minimum        4.300      Maximum        4.900


Valid cases       50      Missing cases      0

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

KNOWLEDG  Instructor: Knowledge of subject matter


Mean           4.668      Std err         .035      Median         4.700
Mode           4.300      Std dev         .248      Variance        .061
Range           .700      Minimum        4.300      Maximum        5.000


Valid cases       50      Missing cases      0

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

EFFECTIV  Instructor: Effectiveness of lectures


Mean           4.552      Std err         .042      Median         4.800
Mode           4.800      Std dev         .296      Variance        .087
Range           .700      Minimum        4.100      Maximum        4.800


Valid cases       50      Missing cases      0

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

VISUALS   Materials:  Visual Aids


Mean           3.996      Std err         .052      Median         4.100
Mode           3.900      Std dev         .365      Variance        .133
Range          1.200      Minimum        3.200      Maximum        4.400


Valid cases       50      Missing cases      0
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TEXTS      Materials:  Textbooks


Mean          3.870      Std err        .055      Median        3.900
Mode          4.300      Std dev        .387      Variance       .150
Range         1.300      Minimum       3.000      Maximum       4.300


Valid cases      50      Missing cases      0

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

HANDOUT    Materials:  Handouts


Mean          3.972      Std err        .084      Median        4.000
Mode          3.800      Std dev        .594      Variance       .353
Range         1.800      Minimum       3.000      Maximum       4.800


Valid cases      50      Missing cases      0

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

HANDSON    Materials:  Hands on activities


Mean          4.018      Std err        .078      Median        4.300
Mode          4.000      Std dev        .549      Variance       .301
Range         1.500      Minimum       3.000      Maximum       4.500


Valid cases      50      Missing cases      0

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

REC_Y      Recommend - Yes: % of students


Mean           .960      Std err        .008      Median        1.000
Mode          1.000      Std dev        .054      Variance       .003
Range          .125      Minimum        .875      Maximum       1.000


Valid cases      50      Missing cases      0
```

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18 Nov 92 WPL - EVALUATIONS: Freqs for Learning for Managers (weighted

File:     WORKPLACE LITERACY (MCC)

REC_N     Recommend - No: % of students


Mean              .040     Std err         .008     Median          .000
Mode              .000     Std dev         .054     Variance        .003
Range             .125     Minimum         .000     Maximum         .125


Valid cases        50      Missing cases      0

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

WT_Y      Want again - Yes: % of students


Mean              .960     Std err         .008     Median         1.000
Mode             1.000     Std dev         .054     Variance        .003
Range             .125     Minimum         .875     Maximum        1.000


Valid cases        50      Missing cases      0

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

WT_N      Want again - No: % of students


Mean              .020     Std err         .006     Median          .000
Mode              .000     Std dev         .040     Variance        .002
Range             .100     Minimum         .000     Maximum         .100


Valid cases        50      Missing cases      0
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For more information, contact:
Jim Chybowski
(313) 762-0387
FAX: (313) 762-0204

WORKPLACE LITERACY PROJECT

May 1, 1992 - October 31, 1992

READING

BUSINESS & INDUSTRY TRAINING

a Division of
Mott Community College
Community Education
711 N. Saginaw St., Ste. 123, Flint, MI 48503 (313) 762-0386

READING SKILLS ENHANCEMENT
MOTT COMMUNITY COLLEGE

Business & Industry Training
Winter 1992

INSTRUCTOR: Mary T. Newman

COURSE DESCRIPTION:

The purpose of the class is to develop confidence and to improve skills in and speed necessary for effective reading. The course will cover the 6 types of reading and provide practice in each area according to the reading level of each student.

GOAL OF THE CLASS:

The student will gain confidence, speed and comprehension, as well as develop leisuretime reading habits.

TEXTBOOK AND TEACHING AIDS:

Single Skills Kit and Six Way Paragraphs from Jamestown Press. Basic English Revisited, selected readings from the workplace, newspaper clippings, novels, dictionaries, personal notebooks and folders.

INSTRUCTOR STRATEGY:

Brief lectures followed by group exercises and individualized assignments with positive reinforcement. Daily activities will be charted and logged to monitor individual skill development.

PERFORMANCE OBJECTIVES:

1. Realization of the value of reading proficiency in an ever-changing workplace.
2. Exposure to the 6 different types of reading.
3. Practice in speed reading drills daily to increase reading rate.
4. Practice in the use of the Basic Reading Formula to increase comprehension.
5. Understanding of word meanings by finding Latin and Greek root meanings.

READING SKILLS ENHANCEMENT

Performance Objectives

The student will be exposed to six different types of reading rates through group, individualized and computer instruction.

1. Understanding of the value of reading proficiency in an ever-changing workplace.
2. Knowledge of the 6 different types of reading.
3. Practice in speed reading drills daily to increase reading rate.
4. Practice in the use of the basic reading formula using newspaper articles.
5. Understanding of the origin of the English language through Latin and Greek roots.
6. Practice in finding the meaning of words in the dictionary, looking first for Latin and Greek roots.
7. Development of understanding and comprehension through the use of the text Six Way Paragraphs.
8. Concentration on weakness in reading through the use of the individualized Single Skills reading kit.
9. Practice in critical reading using a contract.
10. Practice in reading memos and charts.
11. Practice in study reading using the SQR's guide.
12. Overview of Esthetic reading through examples of literary devices.

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COURSE OUTLINE

READING SKILLS ENHANCEMENT

Session 1 Orientation, Enrollment, etc.

Session 2 Overview of Class

Introductions
- Teacher
- Students
- Written survey of expectations in question form

Purpose of Class
- Give overview of 6 types of reading
  1. Skimming
  2. Scanning
  3. Study reading
  4. Speed reading
  5. Critical reading
  6. Esthetic reading

Assignment: Bring to class a high interest book, notebook and dictionary.

Session 3 Speed Reading Techniques

Discuss printed handout by Bill Cosby on the secrets of reading faster
1. Reading and discuss each section.
2. Review and summarize

Students will practice techniques using the book brought to class.
1. Read for 20 minutes.
2. Record number of pages read using the graph distributed.

Session 4 Basic Reading Formula

Speed reading practice for 20 minutes
- Record number of pages read on graph
- Look up any difficult words

Discuss handout of Basic Reading Formula
- Use the formula to find the:
  - subject
  - main idea
  - supporting details
  - conclusion
- in 3 newspaper articles
  - "Dyslexia, Not Unalterable, Study Finds"
  - "Breast Implant Maker Idles Workers at 2 Plants"
  - "Employers Pushing Sales of U.S. Cars".

Session 5 Latin and Greek Origin of Words

Speed Reading Exercise
- Same as Session 3

Use overhead projector to unlock meanings of a word chain containing Latin and Greek Roots
  Students guess meanings of roots;
  Put roots together;
  Guess meanings of words.

Introduce Six Way Paragraph Reading
  Give practice in reading selection 1
  Explain scoring and charting progress

Session 6 Latin and Greek Roots Review

Speed Reading Drill
  Chart progress
  Look up unfamiliar words

Distribute 2 newspaper articles having underlined words.
  "Most Dawn Donuts Outlets to Convert"
  "UAW Plans its Push for Benefits"

Students are assigned 2 underlined words each to look up in dictionary for Latin and Greek roots and meanings.

Class shares roots and meanings found.

Session 7 Skimming, Dictionary and Words in Context

Speed Reading Drill
  Chart progress
  Look up unfamiliar words

Distribute article on Ergonomics
  Students locate words from list in the article. Read words in context. Find 2 word meanings in dictionary, especially finding Latin and Greek root meanings.

Session 8 Single Skill Diagnostic Test

Speed Reading Drill
  Chart Progress
  Look up unfamiliar words

Distribute tests and answer sheets for Single Skill Test
  Allow 40 minutes for 5 sections of the test.
  Have students check their own answers.

Assign skill level for each student as they complete the test.

Session 9 Critical Reading

Speed Reading Drill

Six Way Paragraph Practice
  Chart Progress in each

Use a contract, "Work Rules", to locate answers to 10 questions on handout.

Allow class discussion of answers for each. Ask students to underline the key words in the contract that prove their answers.

Session 10 Scanning, Memos and Charts

Speed Reading and Six Way Paragraph Drills
    Chart Progress
    Look up unfamiliar words

Distribute "Memo" handout
    Discuss important elements

1. date
2. initials of sender
3. receiver
4. topic
5. clarity
6. action to be taken

Distribute chart of chemical hazard remedies.
    Ask students to find answers to random questions relating to locating information on the chart.
    Have students locate information relating to each part of the chart.
    Have students make up questions to ask the class.
    Have other students use the chart to find the answers.

Session 11 Study Reading

Give Nelson Denny Test
    Allow 50 minutes for the test.

Present Handout on study reading
    Apply the information to an electronics chapter handout.

Session 12 Esthetic Reading

Speed Reading

Six Way Paragraphs

Single Skills - Chart Progress

Give handout on "A Tree"
    Find literary devices:
        similar - compares tree to a poem
        metaphor - arms for branches
        induction - to pray - lead by persuasion
        deduction - to draw an inference

Distribute student progress reports. Discuss each individually.

/mk
2/92

Reading Skills Enhancement
Mott Community College

Personal Information Sheet

Name ______________________________ Phone: ____________________

Address ____

City, State, Zip Code ________________________________

Married ______ Single ______ Divorced ______

Children: names and ages: ____________________________

Hobbies: Free time activies __________________________
____

Favorite TV Programs _________________________________
____

Favorite Sports ______________________________________

Types of Books I like to Read ________________________

Last Book I read _____________________________________

Favorite Magazines ___________________________________

Newspapers ____

How This Class Will Help Me __________________________
____

Goals for the Future - _______________________________
____
____
____

How I can find more time to read: ____________________
____
____

ng on the Job

Wally Amos is the founder of Famous Amos Cookies. For his work, he reads marketing plans and reports from his several cookie shops, and he also studies budgets. Amos talks to a lot of people about literacy. "Yesterday I went to an elementary school. I read the book *Green Eggs and Ham* to the class," he says.

Most of the reading Amos does is to inspire and motivate himself. "It makes me feel good. It helps create an inner pool of strength," he says. "If I have high self-esteem, then I don't see anything as a barrier."

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How to read faster

By Bill Cosby

International Paper asked Bill Cosby—who earned his doctorate in education and has been involved in projects which help people learn to read faster—to share what he's learned about reading more in less time.

When I was a kid in Philadelphia, I must have read every comic book ever published. (There were fewer of them then than there are now.)

I zipped through all of them in a couple of days, then reread the good ones until the next issues arrived.

Yes indeed, when I was a kid, the reading game was a snap.

But as I got older, my eyeballs must have slowed down or something! I mean, comic books started to pile up faster than my brother Russell and I could read them!

It wasn't until much later, when I was getting my doctorate, I realized it wasn't my eyeballs that were to blame. Thank goodness. They're still moving as well as ever.

The problem is, there's too much to read these days, and too little time to read every word of it.

Now, mind you, I still read comic books. In addition to contracts, novels, and newspapers. Screenplays, tax returns and correspondence. Even textbooks about how people read. And which techniques help people read more in less time.

I'll let you in on a little secret. There are hundreds of techniques you could learn to help you read faster. But I know of 3 that are especially good.

And if I can learn them, so can you—and you can put them to use *immediately*.

They are commonsense, practical ways to get the meaning from printed words quickly and efficiently. So you'll have time to enjoy your comic books, have a good laugh with Mark Twain or a good cry with *War and Peace*. Ready?

Okay. The first two ways can help you get through tons of reading material—fast—*without reading every word*.

They'll give you the *overall meaning* of what you're reading. And let you cut out an awful lot of *unnecessary* reading.

1. Preview—if it's long and hard

Previewing is especially useful for getting a general idea of heavy reading like long magazine or newspaper articles, business reports, and nonfiction books.

It can give you as much as half the comprehension in as little as one tenth the time. For example, you should be able to preview eight or ten 100-page reports in an hour. After previewing, you'll be able to decide which reports (or which *parts* of which reports) are worth a closer look.

Here's how to preview: Read the entire first two paragraphs of whatever you've chosen. Next read only the *first sentence* of each successive paragraph. Then read the entire last two paragraphs.

Previewing doesn't give you all the details. But it does keep you from spending time on things you don't really want—or need—to read.

Notice that previewing gives you a quick, overall view of *long, unfamiliar* material. For short, light reading, there's a better technique.

2. Skim—if it's short and simple

Skimming is a good way to get a general idea of light reading—like popular magazines or the sports and entertainment sections of the paper.

You should be able to skim a weekly popular magazine or the second section of your daily paper in less than *half* the time it takes you to read it now.

Skimming is also a great way to review material you've read before.

Here's how to skim: Think of your eyes as magnets. Force them to move fast. Sweep them across each and every line of type. Pick up *only a few key words in each line.*

Everybody skims differently.

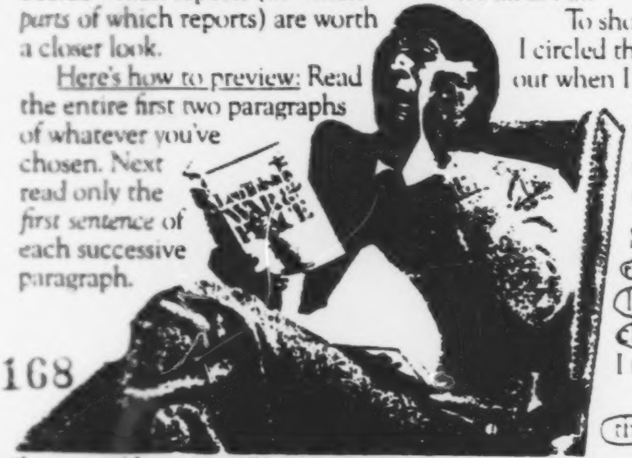
You and I may not pick up exactly the same words when we skim the same piece, but we'll both get a pretty similar idea of what it's all about.

To show you how it works, I circled the words I picked out when I skimmed the following story. Try it. It shouldn't take you more than 10 seconds.

My brother Russell thinks monsters live in our bedroom closet at night. But I told him he is crazy.

"Go and check then," he said.

I didn't want to. Russell said I was chicken.



"Learn to read faster and you'll have time for a good laugh with Mark Twain—and a good cry with War and Peace."

"Am not," I said.
"Are so," he said.
So I told him the monsters
were going to eat him at midnight.
He started to cry. My Dad came in
and told the monsters to beat it.
Then he told us to go to sleep.
"If I hear any more about
monsters," he said, "I'll spank you."
We went to sleep fast. And you
know something? They never did
come back.

Skimming can give you a very good *idea* of this story in about half the words—and in *less* than half the time it'd take to read every word.

"Read with a good light—and with as few friends as possible to help you out. No TV, no music. It'll help you concentrate better—and read faster."

So far, you've seen that previewing and skimming can give you a *general idea* about content—fast. But neither technique can promise more than 50 percent comprehension, because you aren't reading all the words. (Nobody gets something for nothing in the reading game.)

To *read faster and understand most*—if not all—of what you read, you need to know a third technique.

3. Cluster—to increase speed and comprehension

Most of us learned to read by looking at each word in a sentence—*one at a time.*

Like this:

My—brother—Russell—thinks—monsters...

You probably still read this way sometimes, especially when the words are difficult. Or when the words have an extra-special meaning—as in a poem, a Shakespearean play, or a contract. And that's O.K.

But word-by-word reading is a rotten way to read faster. It actually *cuts down* on your speed.

Clustering trains you to look at *groups* of words instead of one at a time—to increase your speed enormously. For most of us, clustering is a *totally different way of seeing what we read.*

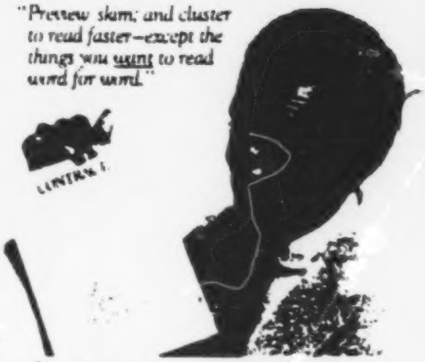
Here's how to cluster: Train your eyes to see *all* the words in clusters of up to 3 or 4 words at a glance.

Here's how I'd cluster the story we just skimmed:

My brother Russell thinks monsters
live in our bedroom closet at night.
But I told him he is crazy.
"Go and check then," he said.
"I didn't want to," Russell said
I was chicken.
"Am not," I said.
"Are so," he said.
So I told him the monsters
were going to eat him at midnight.
He started to cry. My Dad came in
and told the monsters to beat it.
Then he told us to go to sleep.
"If I hear any more about
monsters," he said, "I'll spank you."
We went to sleep fast. And you
know something? They never did
come back.

Learning to read clusters is not something your eyes do naturally. It takes constant practice.

Here's how to go about it: Pick something light to read. Read it as fast as you can. Concentrate on seeing 3 to 4 words at once rather than one word at a time. Then reread the piece at your normal speed to see what you missed the first time.



"Preview, skim, and cluster to read faster—except the things you want to read word for word."

Try a second piece. First cluster, then reread to see what you missed in this one.

When you can read in clusters without missing much the first time, your speed has increased. Practice 15 minutes every day and you might pick up the technique in a week or so. (But don't be disappointed if it takes longer. Clustering *everything* takes time and practice.)

So now you have 3 ways to help you read faster. Preview to cut down on unnecessary heavy reading. Skim to get a quick, general idea of light reading. And cluster to increase your speed *and* comprehension.

With enough practice, you'll be able to handle *more* reading at school or work—and at home—*in less time.* You should even have enough time to read your favorite comic books—and *War and Peace!*

Bill Cosby

Years ago, International Paper sponsored a series of advertisements, "Send me a man who reads," to help make Americans more aware of the value of reading.

Today, the printed word is more vital than ever. Now there is more need than ever before for all of us to *read* better, *write* better, and *communicate* better.

International Paper offers this *new* series in the hope that, even in a small way, we can help.

For reprints of this advertisement, write: "Power of the Printed Word," International Paper Co., Dept. 3, P.O. Box 900, Elmsford, New York 10523.

INTERNATIONAL PAPER COMPANY
We believe in the power of the printed word.

Printed in U.S. on International Paper Company's Springhill® Offset, basis 60 lb.

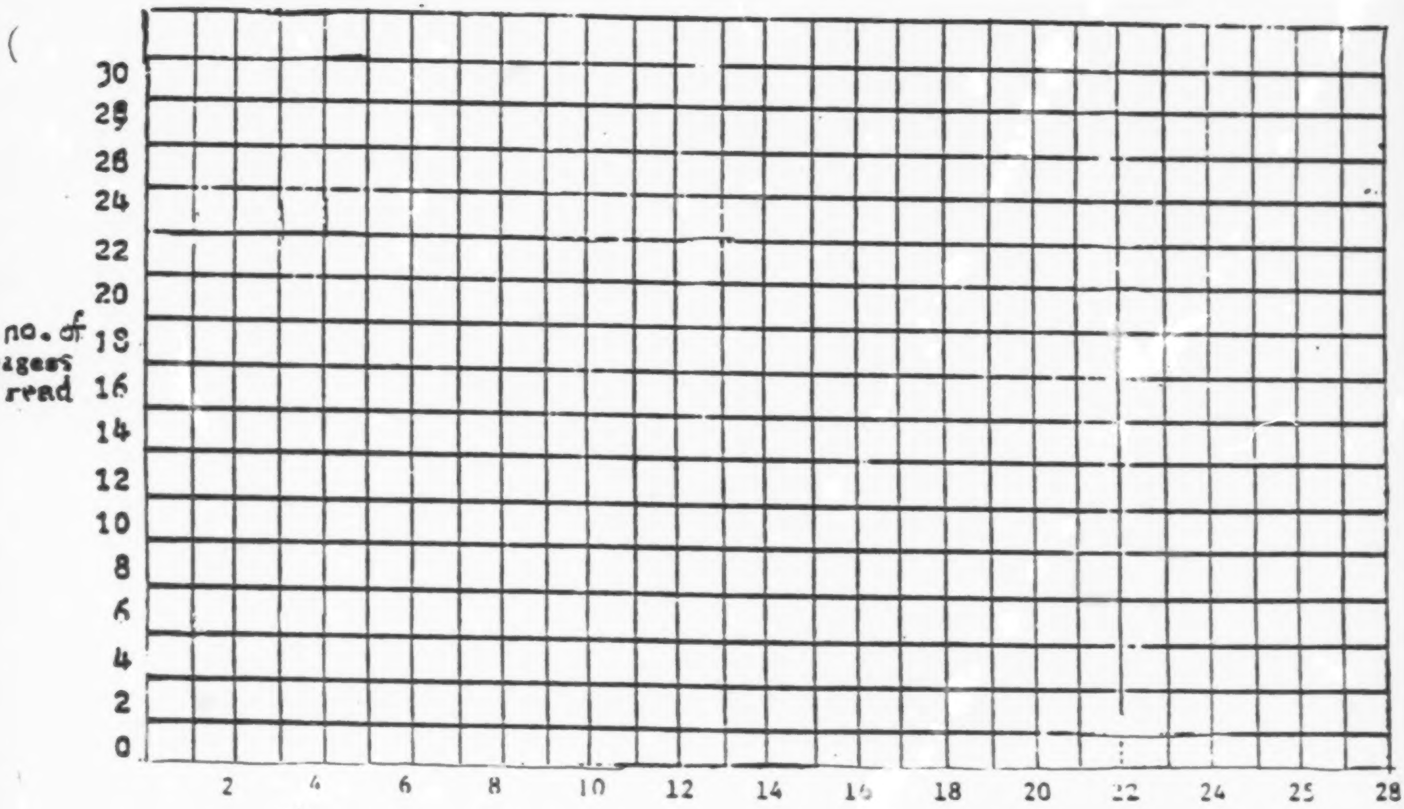
Name ______________________________ Date ____________________

CLASS ASSIGNMENT: IMPROVEMENT RATE

Directions: Select a book that you would like to read. It can be of any sort--romance, western, detective, mystery, science fiction, whatever. Novels work best, but they should not be technical or contain a lot of dialogue. The book should be at least 250 pages.

This is a speed exercise, not a comprehension exercise.

Procedure: You will practice reading in short 20 minute sessions. It is best to use a timer of some sort, since watching the clock interferes with your comprehension and decreases the amount of time you spend reading. Time each session for 20 minutes. The first time you do the exercise, read at your normal rate. Count the number of pages read in the 20 minutes and plot it on the graph below. From then on, for each 20 minute session, you will read as fast as you can, pushing yourself faster than you usually read. Read at your fastest rate, not your comfortable rate. At the end of each 20 minutes you'll stop, count the number of pages read, and plot them on the graph. You'll do this at least once a day, five days a week. Each time you'll try to go faster, read a bit more.



20 minute sessions

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THE BASIC READING FORMULA

STUDY SHEET

Subject

Question: What is the article mostly about?

Explanation: The subject is what the article is mainly about. The author wrote the article to talk about the subject. It's the topic the author wants to make a point about.

Main Idea

Question: What point does the author make about the subject?

Explanation: The main idea is the main point the author is trying to make about the subject. It's the thing he wants you to remember. The main idea is a statement made by the author that he goes on to prove.

Supporting Details

Question: What examples does the author give to prove the main idea?

Explanation: The supporting details are the examples and details the author uses to prove his main idea. They tell us why the author makes the main idea statement.

Action

Question: What action does the author want taken?

Explanation: This is the thing the author feels the reader or someone should do It's the action he is trying to persuade people to take.

SALES

7

Employers pushing sales of U.S. cars

T[illegible] .ssociated Press

Douglas Brown had not owned an American-made car for 15 years when the news of General Motors' dramatic cutbacks finally got to him.

The Greenwich, Conn., businessman not only went out and bought a Cadillac. He made it much easier for his 50 employees to buy American.

Brown, president of Brown Paper Co., announced he would pay $1,000 to any employee who buys or leases an American-made car this year.

In the wake of President Bush's trip to Japan, employers are lending an unexpected hand to the Big Three automakers. Similar ideas recently came to an Illinois insurance agent, an Ohio doctor and a county legislator in Buffalo, N.Y.

Automakers could use the boost. Early January sales of domestically made vehicles fell 6.2 percent from depressed 19[illegible] levels. And last month, C[illegible] aid it will close 21 plants a[illegible] lay off 74,000 workers to stem huge losses.

For some employers, though, it was the trip by the president and the Big Three's chief executives to win Japanese trade concessions that moved them to action.

"I think President Bush's efforts are admirable," said insurance agent Ralph Swank, "but I think it is up to the American people to help, and we can hope that our little effort will be a land swell."

Swank offered $1,000 to employees of his Waukegan, Ill., insurance agency toward the purchase of a new, American-made car.

Dr. William Lippy of Warren, Ohio, is offering employees $200 to buy a used, American-made car, $400 to buy a new car and $600 to buy a new car made at a nearby GM plant.

Ralph Mohr, an Erie County, N.Y., legislator, proposed giving people who buy American cars a break on their county sales tax. On a $15,000 car, a buyer would save $150.

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Dyslexia not unalterable, study finds

Research likely to change procedures for diagnosis

The New York Times

A large study of Connecticut schoolchildren has found that dyslexia, a reading problem in children, is not an unalterable disability, as psychologists, educators, and parents had assumed.

Instead, the study found, most of the children considered dyslexic in the first grade no longer were dyslexic a few years later.

Dyslexia experts said they expected the findings to fundamentally alter the way dyslexia is viewed by researchers and the way it is diagnosed.

They said the study showed that a diagnosis of dyslexia in kindergarten was not necessarily a prognosis of doom.

"It's a good sign for those families, a good sign for those kids," said Dr. David Gray, a psychologist and dyslexia expert at the National Institute of Child Health and Human Development.

"Even for kids who remain in the dyslexia group, it gives hope that they may get out of it."

Dyslexia is defined by the World Federation of Neurology as a "difficulty in learning to read despite conventional instruction, adequate intelligence and sociocultural opportunity."

Researchers have found that children with dyslexia have trouble breaking words into their constituent sounds and that they benefit from tutoring that focuses on this skill.

The problem affects an estimated 10 percent of American children and long has been assumed to have a biological basis.

But the investigators who did the latest study were surprised to find that many dren, particularly those on the boundarie the dyslexia group, moved in and out of i

The nine-year study, which followed children who began kindergarten in 1 showed that most children who were dysl in the first grade were not in later grades.

At the same time, other children who not dyslexic early on were dyslexic when were older.

Dr. Sally E. Shaywitz, a pediatrician at Yale University School of Medicine who rected the study, said the results showed lexia was like high blood pressure or obe

The cutoff points between normal and normal are arbitrary, the severity of the di der varies continuously, and children mov and out of the abnormal group.

The new study is being published toda The New England Journal of Medicine.

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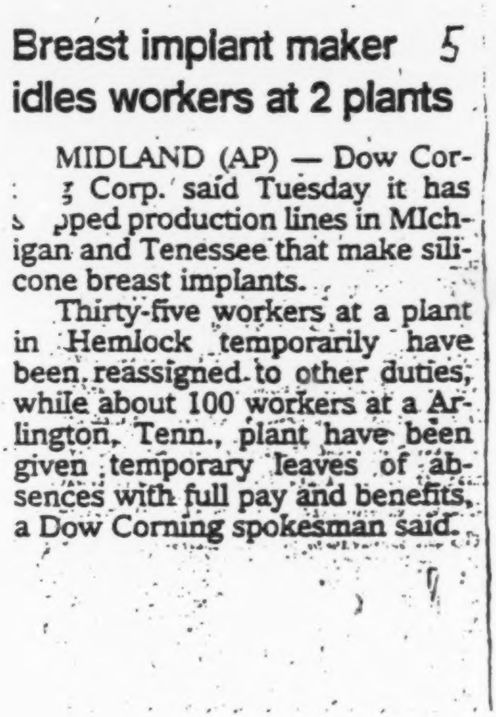


Breast implant maker idles workers at 2 plants

5

MIDLAND (AP) — Dow Cor- g Corp. said Tuesday it has s pped production lines in MIchigan and Tenessee that make silicone breast implants.

Thirty-five workers at a plant in Hemlock temporarily have been reassigned to other duties, while about 100 workers at a Arlington, Tenn., plant have been given temporary leaves of absences with full pay and benefits, a Dow Corning spokesman said.

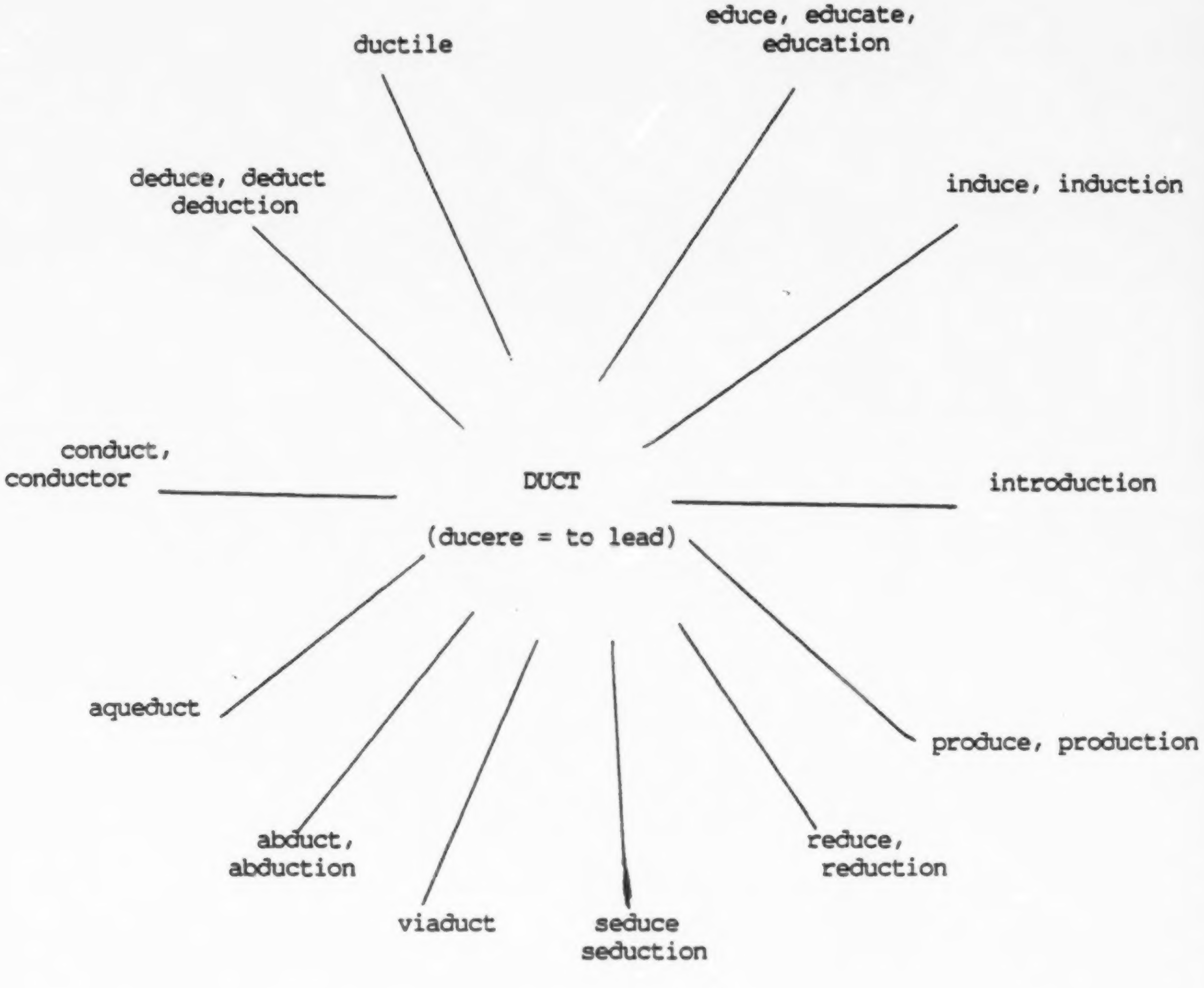
TABLE 15.1 Common Word Roots

Root	Meaning	Example	Definition
agri	field	agronomy	Field-crop production and soil management
anthropo	man	anthropology	The study of man
astro	star	astronaut	One who travels in interplanetary space (stars)
bio	life	biology	The study of life
cardio	heart	cardiac	Pertaining to the heart
chromo	color	chromatology	The science of colors
demos	people	democracy	Government by the people
derma	skin	epidermis	The outer layer of skin
dyna	power	dynamic	Characterized by power and energy
geo	earth	geology	The study of the earth
helio	sun	heliotrope	Any plant that turns toward the sun
hydro	water	hydroponics	Growing of plants in water reinforced with nutrients
hypno	sleep	hypnosis	A state of sleep induced by suggestion
magni	great, big	magnify	To enlarge, to make bigger
man(u)	hand	manuscript	Written by hand
mono	one	monoplane	Airplane with one wing
ortho	straight	orthodox	Right, true, straight opinion
pod	foot	pseudopod	False foot
psycho	mind	psychology	Study of the mind in any of its aspects
pyro	fire	pyrometer	An instrument for measuring temperatures
terra	earth	terrace	A raised platform of earth
thermo	heat	thermometer	Instrument for measuring heat
zoo	animal	zoology	The study of animals

TABLE 15.2 Common Prefixes

Prefix	Meaning	Example	Definition
ante-	before	antebellum	Before the war; especially in the U.S., before the Civil War
anti-	against	antifreeze	Liquid used to guard against freezing
auto-	self	automatic	Self-acting or self-regulating
bene-	good	benefit	An act of kindness; a gift
circum-	around	circumscribe	To draw a line around; to encircle
contra-	against	contradiction	To speak against
de-	reverse, remove	defoliate	Remove the leaves from a tree
ecto	outside	ectoparasite	Parasite living on the exterior of animals
endo-	within	endogamy	Marriage within the tribe
hyper-	over	hypertension	High blood pressure
hypo-	under	hypotension	Low blood pressure
inter-	between	intervene	Come between
intra-	within	intramural	Within bounds of a school
intro-	in, into	introspect	To look within, as one's own mind
macro-	large	macroscopic	Large enough to be observed by the naked eye
mal-	bad	maladjusted	Badly adjusted
micro-	small	microscopic	So small that one needs a microscope to observe
multi-	many	multimillionaire	One having two or more million dollars
neo-	new	neolithic	New stone age
non-	not	nonconformist	One who does not conform
pan-	all	pantheon	A temple dedicated to all gods
poly-	many	polygonal	Having many sides
post-	after	postgraduate	After graduating
pre-	before	precede	To go before
proto-	first	prototype	First or original model
pseudo-	false	pseudonym	False name; esp., an author's pen-name
retro-	backward	retrospect	A looking back on things
semi-	half	semicircle	Half a circle
sub-	under	submerge	To put under water
super-	above	superfine	Extra fine
tele-	far	telescope	Seeing or viewing afar
trans-	across	transalpine	Across the Alps

FIGURE 15.1 A Constellation of Words from One Root


ductile
educe, educate, education
deduce, deduct deduction
induce, induction
conduct, conductor
DUCT
(ducere = to lead)
introduction
aqueduct
produce, production
abduct, abduction
reduce, reduction
viaduct
seduce seduction

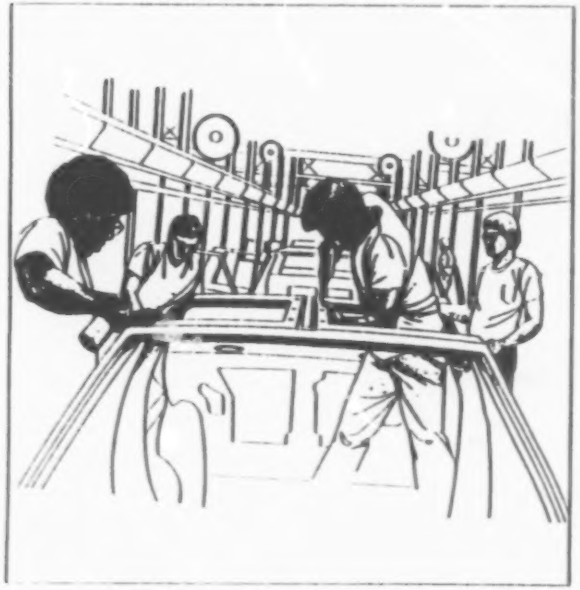
Name______________________________ Date______________

Word	Latin or Greek Roots	Meaning
1. ergonomics		
2. cumulative		
3. trauma		
4. occupational		
5. fracture		
6. instantaneous		
7. abnormal		
8. disorder		
9. exposure		
10. environment		
11. technology		
12. repetitiveness		
13. incuring		
14. exertion		
15. articulating		
16. hoists		
17. conveyors		

Word	Latin or Greek Root	Meaning
21. excessive		
22. modified		
23. awkward		
24. posture		
25. occur		

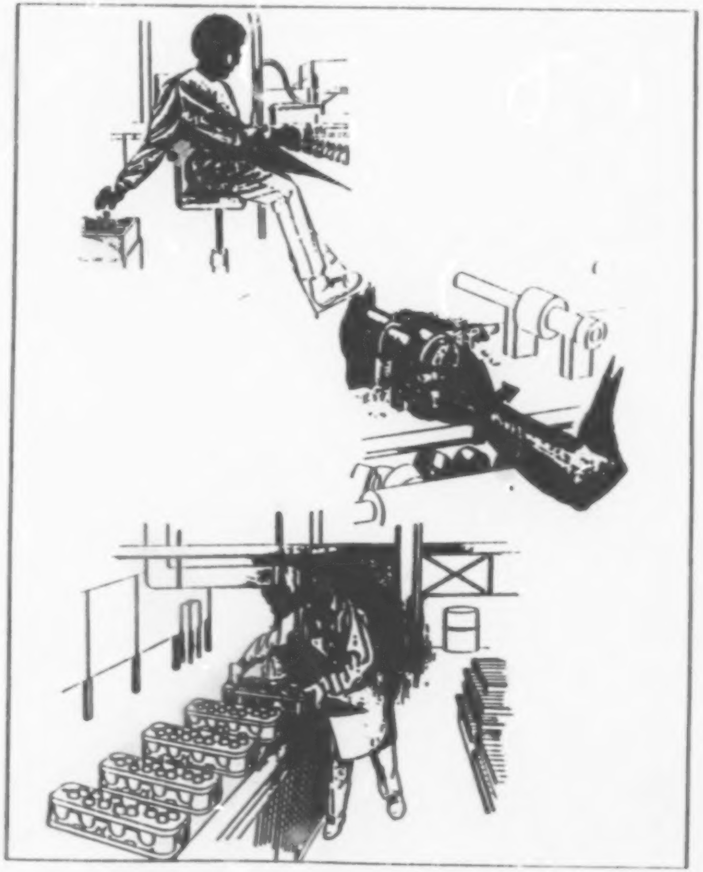
Recognizing Workplace Risk Factors

The Ergonomics Awareness Program will help you to recognize workplace risk factors. Workplace risk factors are job elements or components that increase your chances of injury or illness.



Repetitiveness

The first risk factor is *repetitiveness*. Repetitiveness refers to how often an awkward motion or act occurs during a work day. Excessive repetition increases your chances of incurring a CTD.



INTRODUCTION

The overall goal of the UAW-GM Ergonomics Process is to eliminate injuries and illnesses caused by cumulative trauma disorders (CTDs). The "Ergonomics Awareness" portion of this process will enable you to recognize workplace risk factors. It also will help you understand the methods used to correct them and your role in these corrections.

SECTION I

Cumulative Trauma Disorders (CTDs)

A cumulative trauma disorder (CTD) is damage to body tissues caused by outside forces. Over time, this damage interferes with a normal, healthy body. The definition of CTD comes from the meaning of each word in the term.

Cumulative:	building up or increasing over a long period of time
Trauma:	the damage of body tissues by outside forces
Disorder:	a condition that interferes with normal, healthy functioning of the body

The Ergonomics Process

Use of the Ergonomics Process will help design risk factors out of the workplace. This will reduce the pain and suffering caused by occupational injuries and illnesses. An *occupational injury* is an injury such as a cut, fracture, sprain, or amputation caused by an accident or single incident. Injuries are caused by instantaneous events in the work environment. Cases resulting from anything other than instantaneous events are considered illnesses. An *occupational illness* is an abnormal condition or disorder caused by exposure to risk factors in the workplace environment.

A Definition of Ergonomics

Ergonomics is a field of study concerned with the design of processes and environments that are safe for worker use. Ergonomics uses science and technology to identify and reduce risk factors that can cause cumulative trauma disorders. Using ergonomic principles to design jobs will reduce workplace injuries and illnesses. Ergonomics will make you more comfortable while you work. It also will make it easier for you to do a quality job.

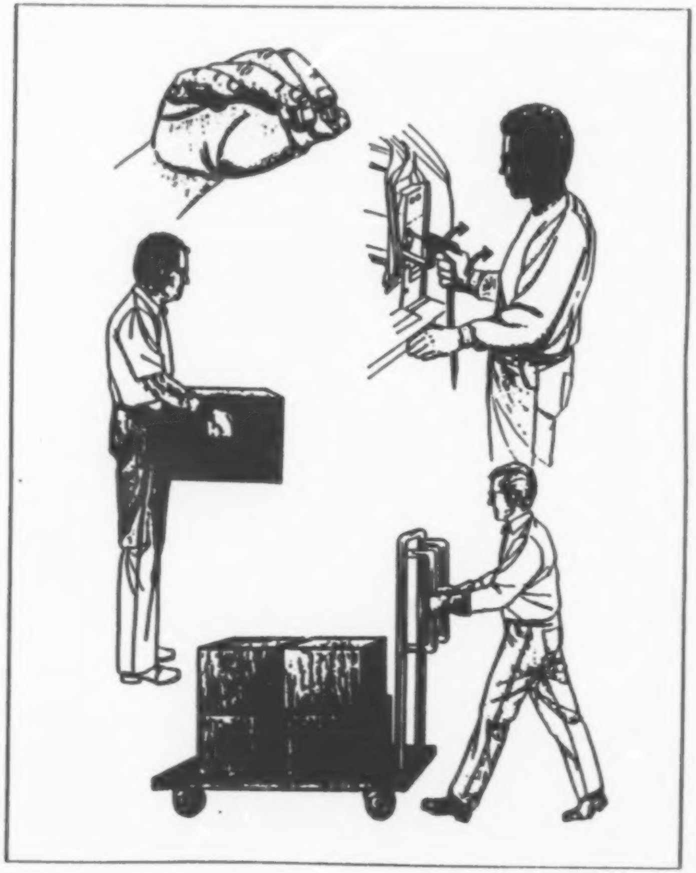
Short-term solutions to this problem include:

- Additional rest periods
- Work enlargement
- Job rotation

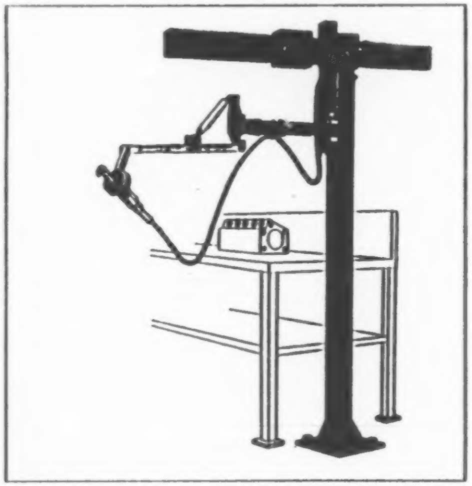
However, the long-term solution to this problem is to modify the job or the workstation. This makes the task easier and less repetitive.

Forceful Exertion

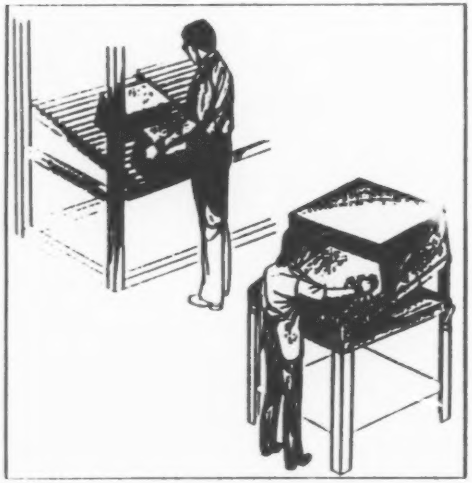
The second risk factor is *forceful exertion*. Exertion refers to the amount of physical effort you use to perform a task. For example, exertion could be the force you use to hold parts and hand tools. Or, it could be the force you use to push, pull, lift, or carry objects.



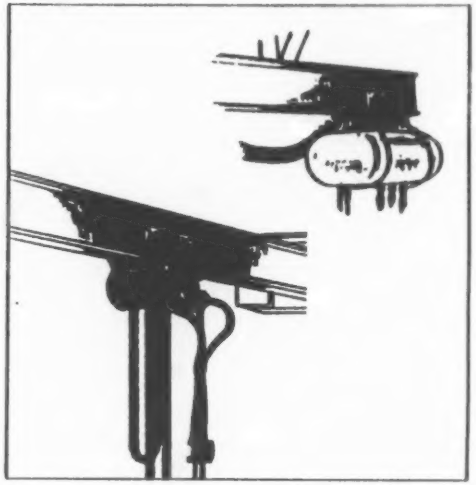
The force on your hand, wrist, elbow, or shoulder may need to be reduced. This can be done in many ways. For example, articulating arms, hoists, liftcarts, or slides can be used to reduce force. Or, transfer conveyors can be used to move objects on the job.



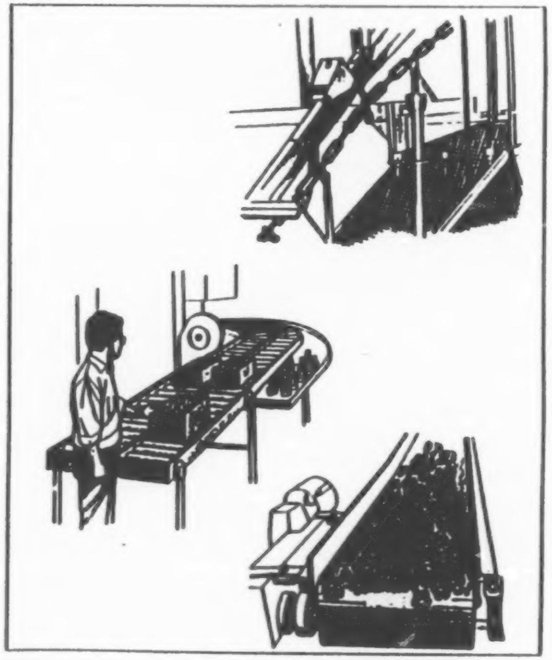
Articulating Arms



Slides



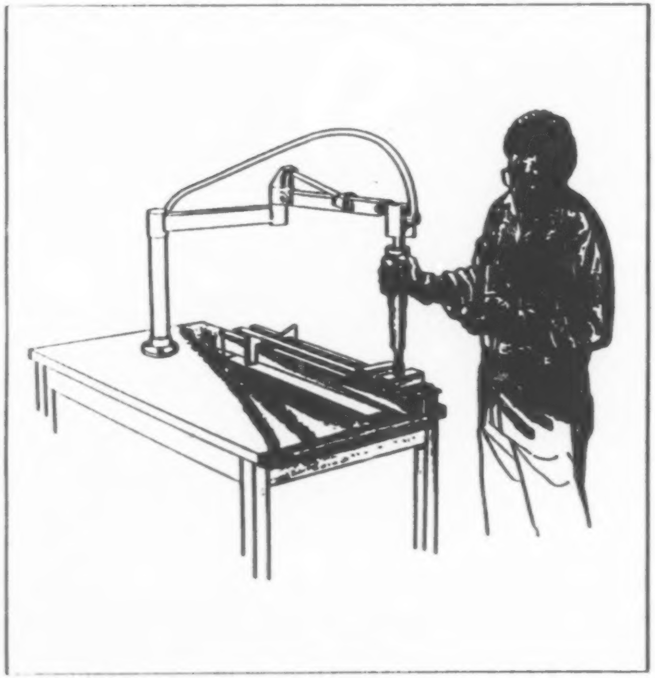
Hoists



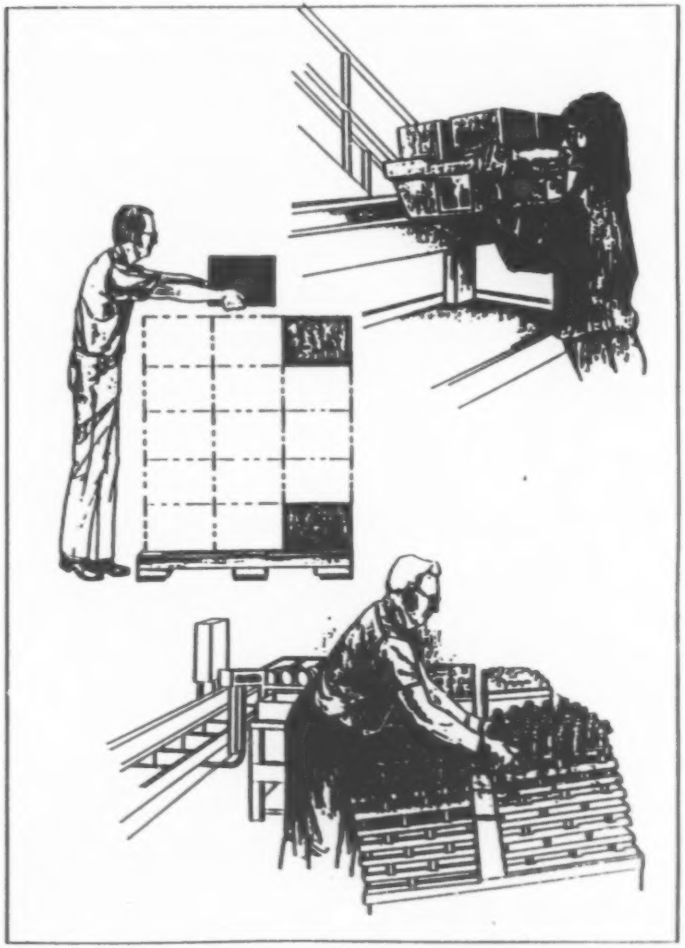
Conveyors

The reaction force you feel in your hands and arms when you perform a task also may need to be reduced. Reaction force is the force used to stop a motion. For example, you feel reaction force when you use a high torque power tool. There are several ways to reduce reaction force:

- Use shut-off or clutch-type power tooling
- Use articulating arms
- Re-design fasteners



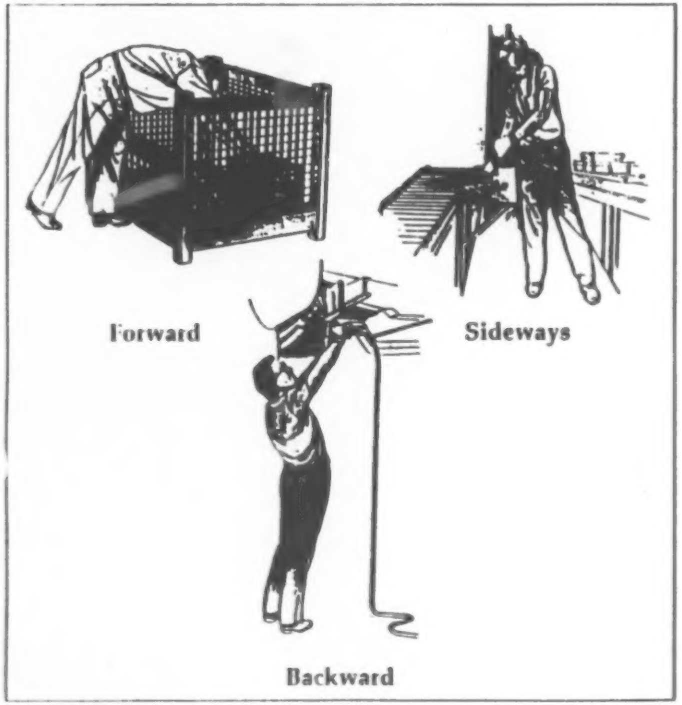
Excessive lifting is another force that must be reduced. When you handle and lift a load, you exert force on your body. This force can affect your arms, shoulders, legs, and back. Poor lifting situations, such as heavy and awkward loads, must be modified to reduce lifting force.



Awkward Postures

The third risk factor is *awkward postures*. Awkward postures are movements that require your body to go beyond its normal or middle range of motion. Awkward postures for your back include:

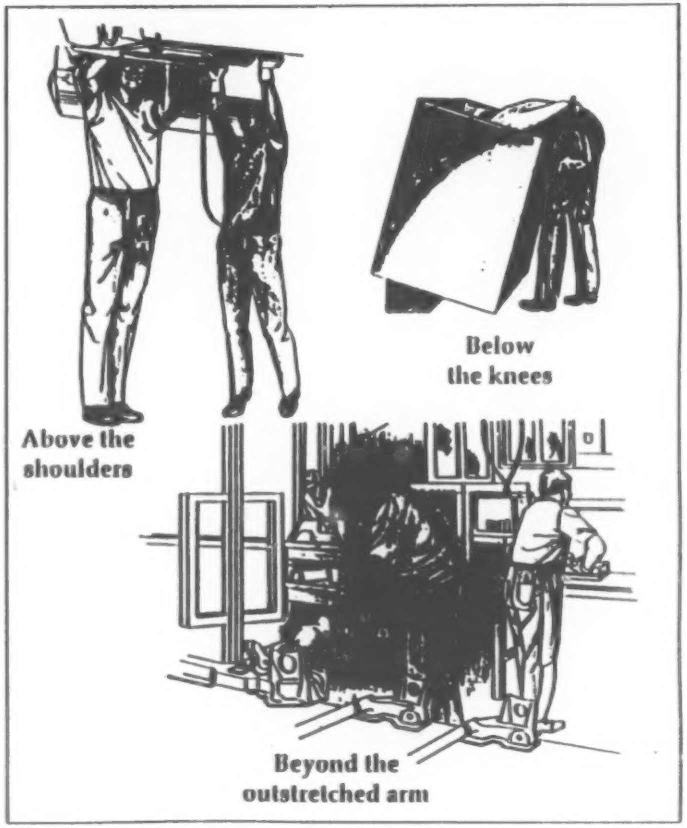
- Bending forward
- Bending sideways
- Bending backward at the waist
- Bending and twisting at the same time


Forward
Sideways
Backward

Awkward postures also may occur in your:

- neck
- shoulders
- arms
- wrists
- fingers

Examples of these awkward postures are shown below.


Below the knees
Above the shoulders
Beyond the outstretched arm

Date: March 1, 1991

To: All employees

From: Ted Rowe, Mgr.

Re: Safe Use Instructions

Beginning March 15, 1991, all chemical materials will contain Safe Use Instructions (SUI). If the chemical material is used for more than one purpose, there will be a SUI for each use.

Safe use instruction (SUI) should be near your work area. Ask your supervisor or union representative where to find them.

A hazzard sheet will be added to chemicals that are known to be highly toxic. The hazzard sheet may give additional warnings.

IN AN EMERGENCY

General instructions plus explanation and letter codes for emergency action for each category

ROUTES OF EXPOSURE

A chemical can reach you by

A Inhalation – breathing
B Contact – skin and eye
C Ingestion – by mouth

EFFECTS OF OVEREXPOSURE

If any of the signs below occur, take first aid action described

A Headache, dizziness, disorientation, nausea, unconsciousness, death
B Irregular heartbeat
C Dry or cracked skin, rash, Redness and/or burning, itching
D Possible liver and/or kidney effects
E Gastrointestinal disturbance
F Respiratory irritation
G Burning, irritation
H With liquified gas, frostbite
I Suffocation
J Headache, drowsiness, suffocation, death
K Burning, tissue destruction
L Some materials may produce allergic respiratory reaction, shortness of breath.
M Some materials may produce allergic skin reaction.
N May be absorbed through unbroken skin, producing effects similar to inhalation
O Lung damage
*(Possible)

FIRST AID

A Remove person to fresh air
B If not breathing give artificial respiration
C Immediately flush with water (for 15 minutes if corrosive)
D Wash skin with soap and water
E Remove contaminated clothing & shoes while under emergency shower
F Flush eyes with water
G Contact medical

FIRE FIGHTING

Move containers from fire area if can be done without risk. Self contained breathing apparatus may be needed for chemicals in all categories

A Use dry chemical, carbon dioxide, water spray, fog or foam
B Use dry chemical or carbon dioxide
C Fight fire from maximum distance. Container may explode in fire heat
D Use water spray to cool exposed containers until well after fire out
E Use water to cool only closed containers. Do not get water inside container
F Avoid water stream
G Let cylinder fire burn unless leak can be stopped immediately
H Special protective clothing may be needed

SPILL AND LEAK INSTRUCTIONS

Stop leak if can be done witho[illegible] supervisor/plant security [illegible]

A Contain spill/prevent en[illegible] sanitary sewers if po[illegible]
B Keep unnecessary peop[illegible]
C Take up with sand or o[illegible] absorbent material; then [illegible]
D Dike ahead of spill for la[illegible]
E Self-contained breathing apparatus may be necessary. [illegible]
F Use water spray to reduce vapor in large spills.
G Stay upwind and out of low areas.
H Do not smoke; keep heat sources such as sparks and open flames away.
I Wear proper protective equipment [illegible]
J Do not touch spilled liquid material.
K Protective clothing may be necessary.
L Neutralize with dry chemical, sodium bicarbonate, lime or caustic soda. Then flush with water to Waste Water Treatment System if possible.
M Take up with dry sand, vermiculite or earth. Don't use cloth or sawdust.
N Sweep up solids (avoid creating airborne dust) and place in proper container. Then flush area with lots of water.
O Dilute with water and flush to the Waste Water Treatment System.
P Mop up liquid.

IN AN EMERGENCY — **TYPES OF CHEM**

↓ If this happens ↓ Contact medical and do this

Routes of Exposure	Effects of Overexposure	First Aid	Fire Fighting	Spill & Leak	Safe Use Category
A B B C	ABD C N E	ABG C B G	ACD	ABCDEFG	**1. Halogenated Solvents**
A B B C	A C N E	ABG C G G	ACDF	ABCDEFGH	**2. Solvents—Flashpoint < 100 F**
A B B C	A C N E	AB C G G	ACDF	ABCDEFGH	**3. Solvents—Flashpoint > 100 F**
A B B C	ADL C MN E	ABG C G G	AD	ABCDEFGH	**4. Adhesives—Solvent Based Polyurethanes, Epoxies, Sealers**
A B C	G* C E	AG DF G	AD	AC	**5. Adhesives, Sealers—General**
A B	F GH	ABG CG	ACD	BEIJ	**6. Compressed Gas—Corrosive**
A B	I H	ABG CG	ACDG	BEFGHJ	**7. Compressed Gas—Flammable**
A B	I H	ABG CG	ACD	BEGJ	**8. Compressed Gas—Inert**
B	H	CG	ACDG	BEGHJ	**9. Compressed Gas—Oxidizing**
A B B	J H N	ABG CG CG	ACDG	BEGHJ	**10. Compressed Gas—Toxic**
A B C	FO K K	ABG CEG G	BE	ABEILM	**11. Corrosives—Concentrated Acid**
A B C	FO K K	ABG CEG G	BH	AIN	**12. Corrosives—Acid/Base Powder**
A B C	FO K K	G CEG G	BEH	ABIO	**13. Corrosives—Concentrated Base**
A B B C	F C N E	AG DF G G	AD	AC	**14. Metalworking Fluids & Lubricants**
A B C	G* G E	G F G	B	A[illegible]	**15. Metals, Metal Salts, Solders, Powdered Metals**
A B C	F* G E	A DF G	B	[illegible]	**16. General Use**

* POSSIBLE

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FE USE INSTRUCTIONS—SUMMARY

CALS

HOW TO USE SAFELY

Use Instructions	Personal Protection	Storage	Other
ABCDEFGH	A B	AB	A
ABCDFGHI	A B	ACD	
ABCDFGHI	A B	ACD	
ABCDF	A B	ACD	
F	A B	D	
ADJK		AEF	B
ACJ		AE	B
AJ		AE	B
ACJL		AEF	B
AJ		ABE	BD
AFKMN	A BC	GHI	CEF
ABFKMO	A B	H	CG
AFKM	A BC	HIJ	C
AFGP	A B	K	H
ABF	A B	H	
F			

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HOW TO USE SAFELY

General safe use instructions plus explanation and letter codes for each category

USE INSTRUCTIONS

Avoid breathing gas, vapors, mists, sprays or dusts. Use with adequate ventilation. Avoid contact with skin, eyes, clothing

- **A** A Confined Space Entry Procedure must be followed for use in enclosed areas
- **B** Keep container tightly closed when not in use or empty
- **C** Do not smoke in area of use
- **D** Keep away from welding and heat sources such as furnaces, radiators, flames and molten metal
- **E** Keep away from chemically active metals such as aluminum, magnesium
- **F** Wash hands after use and before eating, drinking, smoking or applying cosmetics
- **G** Remove and wash contaminated clothing
- **H** Use only approved containers when transferring materials
- **I** Where available, use pump to transfer rather than pouring. Bulk containers should have self closing dispensing valves. Ground containers during use, bond containers together when transferring contents. Maintain only one day supply in area of use
- **J** Secure cylinders upright firmly against wall, post, rack, or other solid object. Do not force connection fittings or interchange controls on different gases. Use only manufacturer approved tools. Use proper discharge controls to maintain withdrawal rate within manufacturer specifications. When transporting, use carrier that prevents excessive movement, sudden and violent contact, or upsets. Keep valve caps on cylinders at all times except when connected for use
- **K** Make sure operating eye wash and safety shower facilities immediately available
- **L** Do not handle cylinders, including valves, gauges, regulators or fittings, with oily hands or gloves
- **M** Avoid splashing. Add material slowly, in small quantities, to water. Never add water to material
- **N** Drain siphons, ejectors and other emptying devices completely before removing from containers. Do not move carboys unless securely stoppered and wired. Do not start pipettes or siphons by mouth suction. Inspect carboy boxes to insure their integrity before handling
- **O** When adding material to solution, do not permit large lumps to fall into the vessel.
- **P** Maintain housekeeping to prevent slipping hazard. Avoid contamination of coolant/metal working fluid system with refuse, waste water, or floor cleaner. Make additions to systems only when authorized. Do not mix different types of coolants or metal working fluids together.

PERSONAL PROTECTION

Goggles or face shields may be needed for chemicals in all categories. Codes indicate other PPE which may be needed. Check SUI for specifics.

- **A** Impervious gloves
- **B** Respirator
- **C** Other, i.e. wrist length sleeves, arm protectors, apron

STORAGE

- **A** Store away from heat and direct sunlight.
- **B** Do not store in unventilated areas where vapors may accumulate.
- **C** Store in approved flammable storage area.
- **D** Store away from oxidizing agents and combustible materials.
- **E** All cylinders (empty or full) must be stored upright and be secured firmly against wall, post, rack or other solid object. Do not store empty and full cylinders together. Store in approved storage area away from traffic ways
- **F** Do not subject to freezing temperatures
- **G** Store away from: alcohol and other organic materials; caustics and oxidizing agents, cyanides. Do not store boxed carboys more than 3 tiers high; 2 high is preferred.
- **H** Store in cool, dry place; prevent freezing
- **I** Store away from flammable and combustible materials.
- **J** Store away from acids and oxidizing agents
- **K** Store away from oxidizing agents.
- **L** Store away from oxidizers and flammable materials.
- **M** Store in approved materials storage area dependent on flashpoint

OTHER COMMENTS

- **A** Yields toxic/corrosive substance when heated
- **B** Return cylinders in condition received. Close valve, replace valve cap. Mark or label "EMPTY" or "MT"
- **C** Handle empty containers with caution
- **D** Toxic gas vapors may be non irritating and may deaden sense of smell
- **E** Yields toxic gas when heated
- **F** Drain and replace stoppers of empty carboys before return to supplier
- **G** Corrosive liquid formed by water contamination
- **H** Certain studies have shown long term exposure to some may cause increased cancer rates in certain populations

DISPOSAL Check local plant policy. Place paper, cloth or other contaminated waste in proper container

Form 7.3
Work Rules

[See comment §7.3 when using this form.]

Your Responsibilities

[1] These rules describe your responsibilities as an employee of ABC Company. It is important for you to understand them now that you are an employee of the Company. Obviously, these rules do not describe all possible types of unacceptable conduct or performance. There may be other employee conduct or job performance which, at the Company's sole discretion, will result in discipline up to and including discharge.

[2] Sleeping: Sleeping anywhere on the Company's premises is not permitted. Violation will result in disciplinary actions up to and including termination. Secluding oneself for the purpose of sleeping may result in immediate termination.

[3] Gambling: If you engage in gambling of any type on the Company's premises, you are subject to immediate termination.

[4] Fighting If you strike another employee or engage in any other physical violence while on the Company's premises, you will be terminated.

[5] Theft: If you remove, or attempt to remove, from the Company's premises any property owned by the Company or by others without their written permission, you are subject to immediate termination.

[6] Weapons: You may not bring weapons, guns, knives, etc., onto the Company's property. Violation will result in immediate termination.

[7] Coffee/Smoke Breaks: You will have two 10-minute breaks per shift per day. You may smoke only in designated areas.

[8] Violation of Company Rules: In most cases, if you violate any Company rules, you will be subject to one or more of the following corrective actions:

1. Written notice of violation.
2. Suspension without pay.
3. Termination.

[9] However, the Company reserves the right to take whatever corrective action it decides is appropriate, including immediate discharge, whenever any Company rules are violated, or whenever any employee conduct or job performance, in the Company's sole judgment, merits corrective action.

[10] If you have questions, or require additional information concerning any of these rules, please contact the Personnel Department.

[11] I have received, read, and understood the Company's policies and rules. I understand that I have the right to terminate my employment at any time, with or without notice, for any reason, and that the Company has the same right. I further understand that no one except the vice president of personnel has the authority to enter into any agreement contrary to the previous statement. Any contrary agreement must be in writing and signed by the vice president of personnel to be enforceable and binding on the Company.

Dated: ______________________ /s/ ______________________
[Name of employee]

1. Could an employee be discharged for job performance not mentioned in the work rules?

2. Could an employee keep his job after he or she was found sleeping on the job?

3. Is gaming ever allowed?

4. What will happen to two employees found fighting on the parking lot of the company?

5. Will a person who received oral permission to borrow a typewriter from his or her supervisor be terminated?

6. Is carying a jackknife to work a good idea?

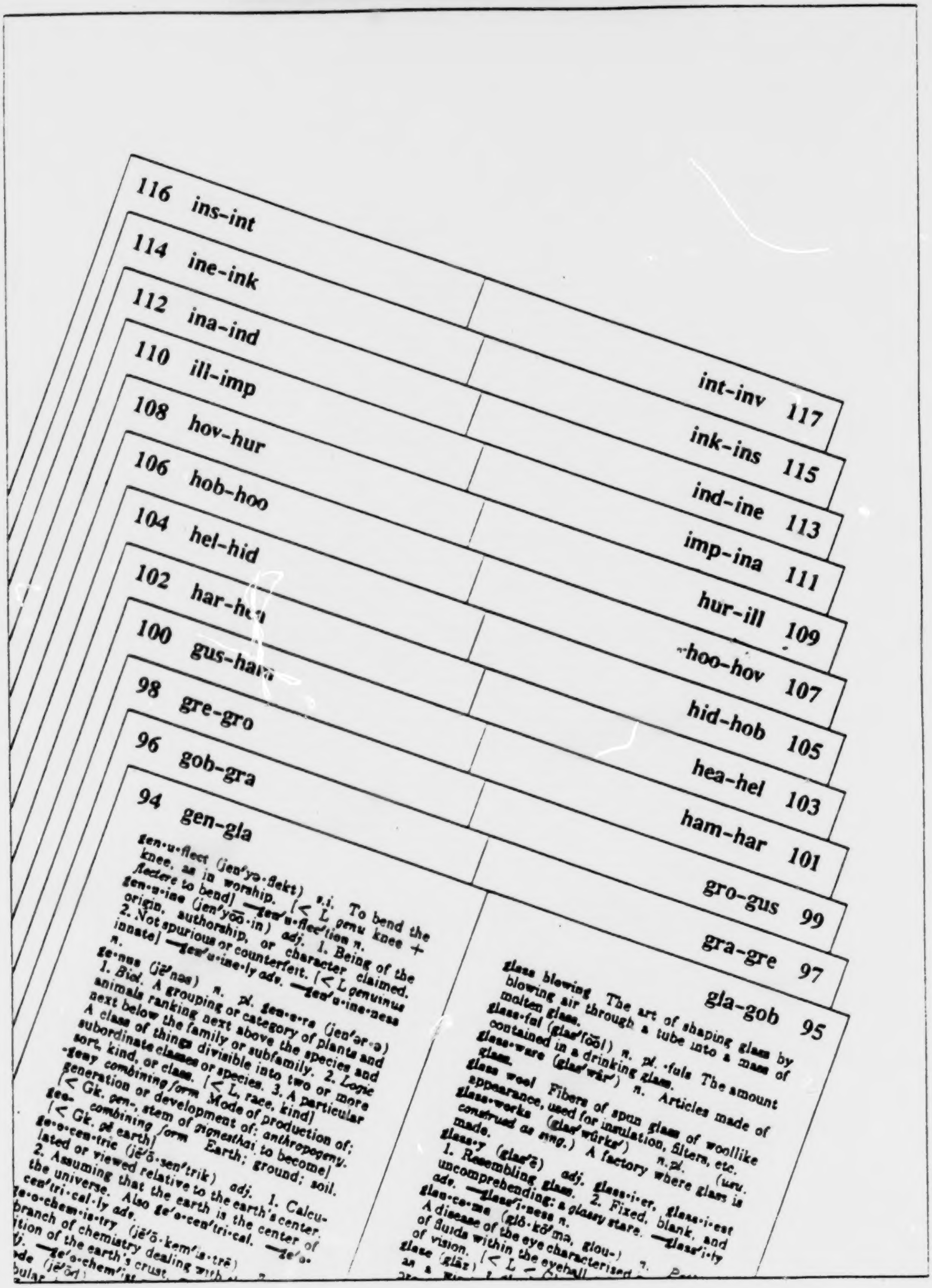
7. How long are coffee/smoke breaks?

8. Will the employee always receive a written notice of termination?

9. Can the employee quit without notice?

10. Who at the company has the authority to change the contract?

DICTIONARY GUIDE WORDS


116 ins-int
int-inv 117
114 ine-ink
ink-ins 115
112 ina-ind
ind-ine 113
110 ill-imp
imp-ina 111
108 hov-hur
hur-ill 109
106 hob-hoo
hoo-hov 107
104 hel-hid
hid-hob 105
102 har-hea
hea-hel 103
100 gus-ham
ham-har 101
98 gre-gro
gro-gus 99
96 gob-gra
gra-gre 97
94 gen-gla
gla-gob 95

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SCANNING DRILL 2, PART A

EXAMPLE

guilt 99

In this example, the word *guilt* would be found on page 99 since alphabetically it follows *gro* and precedes *gus.*

Time for Items 1–15	
Start	
Finish	
Time for Items 16–30	
Start	
Finish	

Word to Look Up	Page Number	Word to Look Up	Page Number
1. hazard	1. ______	16. hysteria	16. ______
2. gorge	2. ______	17. grimace	17. ______
3. hermit	3. ______	18. inhibit	18. ______
4. hundred	4. ______	19. hedge	19. ______
5. grip	5. ______	20. guest	20. ______
6. haven	6. ______	21. intangible	21. ______
7. immune	7. ______	22. influx	22. ______
8. ginger	8. ______	23. historian	23. ______
9. incorrect	9. ______	24. gorilla	24. ______
10. gymnasium	10. ______	25. hawk	25. ______
11. homicide	11. ______	26. hit	26. ______
12. in	12. ______	27. grief	27. ______
13. glutton	13. ______	28. go	28. ______
14. hotel	14. ______	29. incomplete	29. ______
15. increase	15. ______	30. interest	30. ______

ANSWER KEY: PAGE 137

Items 1–15 ▶	Scanning Time		**Items 16–30 ▶**	Scanning Time	
	Number Correct			Number Correct	

REFERENCE A: HISTORY

To properly understand the condition of things preceding the great war of the rebellion, we must glance backward through the history of the country to that memorable 30th of November, 1782. It was then that the independence of the United States of America was at last conceded by Great Britain.

At that time the population of the United States was about 2,500,000 free whites and some 500,000 black slaves. We had gained our independence of the Mother Country, but she had left fastened upon us the curse of slavery. Indeed, African slavery had already been implanted on the soil of Virginia before Plymouth Rock was pressed by the feet of the Pilgrim Fathers. Slavery had soon spread, with greater or less rapidity according to the surrounding adaptations of soil, production, and climate to every one of the thirteen colonies.

Slavery, thus, was recognized and acquiesced in by all as an existing and established institution. Yet there were many, both in the South and North, who looked upon it as an evil—an inherited evil—and were anxious to prevent the increase of that evil. Hence it was that even as far back as 1699 a controversy sprang up between the colonies and the home government upon the African slavery question—a controversy continuing with more or less vehemence down to the Declaration of Independence itself.

It was this conviction that slavery was not only an evil but a dangerous evil that induced Jefferson to embody in his original draft of that declaration a clause strongly condemnatory of the African slave trade. Later, this clause was omitted from the declaration solely, he tells us, "in complaisance to South Carolina and Georgia, who had never attempted to restrain the importation of slaves and who, on the contrary, still wished to continue it," as well as in deference to the sensitiveness of Northern people who, though having few slaves themselves, "had been pretty considerable carriers of them to others. . . ."

REFERENCE B: GEOGRAPHY

Geographically, France is a quadrilateral bounded, except to the northeast, by natural frontiers: to the west, the English Channel and the Atlantic; to the south, the Pyrenees and the Mediterranean; to the east, the Alps, the Jura, and the Rhine. Within these frontiers, plains traversed by rivers and verdant hill country surround the "Massif Central" that consists of high plateaux and extinct volcanoes.

The scenery is quite varied: imposing in the eternal snows of the Alps and the Pyrenees, fertile and harmonious where there are rivers, rough and picturesque on the Atlantic coast, and luxuriant and smiling on the shores of the deep blue Mediterranean. The climate varies considerably: fairly rough, though not bleak, in the north; mild, equable, and inclined to be rainy in the west; dryer in the east, with greater contrasts; and sunny and dry in the south.

France is a rich country. This is reflected in the mode of life of the people. The north and the center contain many important industries that are grouped round rich deposits of coal and iron ore. The whole country produces cereals, vegetables, fruit, and other agricultural produce in abundance. Vineyards dominate the scene on the sunny shores of the Mediterranean, in the Rhone Valley, in Burgundy, and in other climatically privileged parts of the country.

The French Republic has an area of 550,986 kilometers and a population of 42.9 million (not counting overseas territories). The population of Greater Paris is nearly 5 million. The rest of the country is poor in great cities; the fourth largest city in France—Toulouse—has a population of only 265,000. In spite of the continuous process of urbanization in the 20th century, most French people continue to live in villages or small provincial towns. Love of the native soil is one of the most pronounced and deeply rooted national characteristics of the French.

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SCANNING DRILL 12

EXAMPLE

500,000 ________ How many slaves were there in the U.S. at the time of independence?

Time for Entire Drill

Start ☐

Finish ☐

Answer	**Question**
REFERENCE A	
1. ________	1. How many whites were there in the U.S. at the time of independence?
2. ________	2. Where was slavery first started (implanted) in the U.S.?
3. ________	3. Did Jefferson favor slavery?
4. ________	4. When did Britain concede independence?
5. ________	5. Did all 13 colonies have slaves?
REFERENCE B	
6. ________	6. How big is France in area?
7. ________	7. What bounds France on the west?
8. ________	8. Name two valuable deposits mined in northern and central France.
9. ________	9. Which area is mild and rainy?
10. ________	10. What is the population of Greater Paris?

ANSWER KEY: PAGE 139

Number Correct ☐ Scanning Time ☐

DOCUMENT PART A

THE UNIVERSAL DECLARATION OF HUMAN RIGHTS

Article 1 All human beings are born free and equal in dignity and rights. They are endowed with reason and conscience and should act toward one another in a spirit of brotherhood.

Article 2 Everyone is entitled to all the rights and freedoms set forth in this Declaration, without distinction of any kind, such as race, color, sex, language, religion, political, or other opinion, national or social origin, property, birth, or other status.

Furthermore, no distinction shall be made on the basis of the political, jurisdictional, or international status of the country or territory to which a person belongs, whether it be independent, trust, non-self-governing, or under any other limitation of sovereignty.

Article 3 Everyone has the right to life, liberty, and the security of person.

Article 4 No one shall be held in slavery or servitude; slavery and the slave trade shall be prohibited in all their forms.

Article 5 No one shall be subjected to torture or to cruel, inhuman, or degrading treatment or punishment.

Article 6 Everyone has the right to recognition everywhere as a person before the law.

Article 7 All are equal before the law and are entitled without any discrimination to equal protection of the law. All are entitled to equal protection against any discrimination in violation of this Declaration and against any incitement to such discrimination.

Article 8 Everyone has the right to an effective remedy by the competent national tribunals for acts violating the fundamental rights granted him or her by the constitution or by law.

Article 9 No one shall be subjected to arbitrary arrest, detention, or exile.

Article 10 Everyone is entitled in full equality to a fair and public hearing by an independent and impartial tribunal, in the determination of his or her rights and obligations and of any criminal charge against him or her.

Article 11 1. Everyone charged with a penal offense has the right to be presumed innocent until proved guilty according to law in a public trial at which he or she has had all the guarantees necessary for his or her defense.
2. No one shall be held guilty of any penal offense on account of any act or omission which did not constitute a penal offense, under national or international law, at the time when it was committed. Nor shall a heavier penalty be imposed than the one that was applicable at the time the penal offense was committed.

Article 12 No one shall be subjected to arbitrary interference with his or her privacy, family, home, or correspondence, nor to attacks upon his or her honor and reputation. Everyone has the right to the protection of the law against such interference or attacks.

Article 13 1. Everyone has the right to freedom of movement and residence within the borders of each State.
2. Everyone has the right to leave any country including his or her own, and to return to his or her country.

Article 14 1. Everyone has the right to seek and to enjoy in other countries asylum from persecution.
2. This right may not be invoked in the case of prosecutions genuinely arising from nonpolitical crimes or from acts contrary to the purposes and principles of the United Nations.

Article 15 1. Everyone has the right to a nationality.
2. No one shall be arbitrarily deprived of his or her nationality.

Article 16 1. Men and women of full age, without any limitation due to race, nationality, or religion, have the right to marry and to found a family. They are entitled to equal rights as to marriage, during marriage, and at its dissolution.
2. Marriage shall be entered into only with the free and full consent of the intending spouses.
3. The family is the natural and fundamental group unit of society and is entitled to protection by society and the State.

Continued on page 130

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SCANNING DRILL 11, PART A

EXAMPLE

life, liberty, and security of person Article 3

Time for Part A

Start ☐

Finish ☐

Item	Answer
1. no one held in slavery	1. Article ______
2. right to marry	2. Article ______
3. no one subject to arbitrary arrest	3. Article ______
4. right to seek asylum in other countries	4. Article ______
5. everyone innocent until proved guilty	5. Article ______
6. no one tortured	6. Article ______
7. right to return to one's own country	7. Article ______
8. freedom of movement between states	8. Article ______
9. right to a nationality	9. Article ______
10. equal before the law and entitled to equal protection of the law	10. Article ______

ANSWER KEY: PAGE 139

Number Correct ☐ Scanning Time ☐

The Competitive Edge

By Robert McGarvey

> Competition or collaboration? In today's corporate climate the right balance will get you to your goals.

"WINNING ISN'T EVERYTHING," said legendary Green Bay Packers football coach Vince Lombardi. "It's the only thing." Baseball manager Leo Durocher's quip is even less equivocal: "Show me a good loser," said Leo the Lip, "and I'll show you a loser." For a philosophical pedigree, listen to Heraclitus' 6th century B.C. observation: "Strife is justice. . . . All things come to pass through the compulsion of strife."

That's *the* competitive spirit, and it permeates much of American society—sports, certainly, but business every bit as much. Or does it?

"Confusion is rampant in today's corporate environment. Employees are getting mixed messages about when they should compete and when they should collaborate," says Pat Alexander of the Center for Creative Leadership in Greensboro, North Carolina.

More than perplexing signals from the top are at issue: "Since they're not sure what to do or when they should do it, some employees are deciding to compete all the time. Others are simply refusing to compete, ever," Alexander explains. "Neither option is likely to work, not over the long term. You've got to learn to determine when competition is appropriate and when collaboration is. That's not always easy."

Even a half-dozen years ago, there was no debate, no dilemma. The brass ring inevitably went to the swiftest, the hardest working, the most competitive. Nowadays, though, teams—and with them corporate stress on collaboration and cooperation—are everywhere, and for good reason. As Dr. Janet Spence, a psychologist at the University of Texas at Austin, explains, "Extreme competitiveness does not lead to higher performance and achievement. In fact, the opposite is true. Competitiveness often inter-

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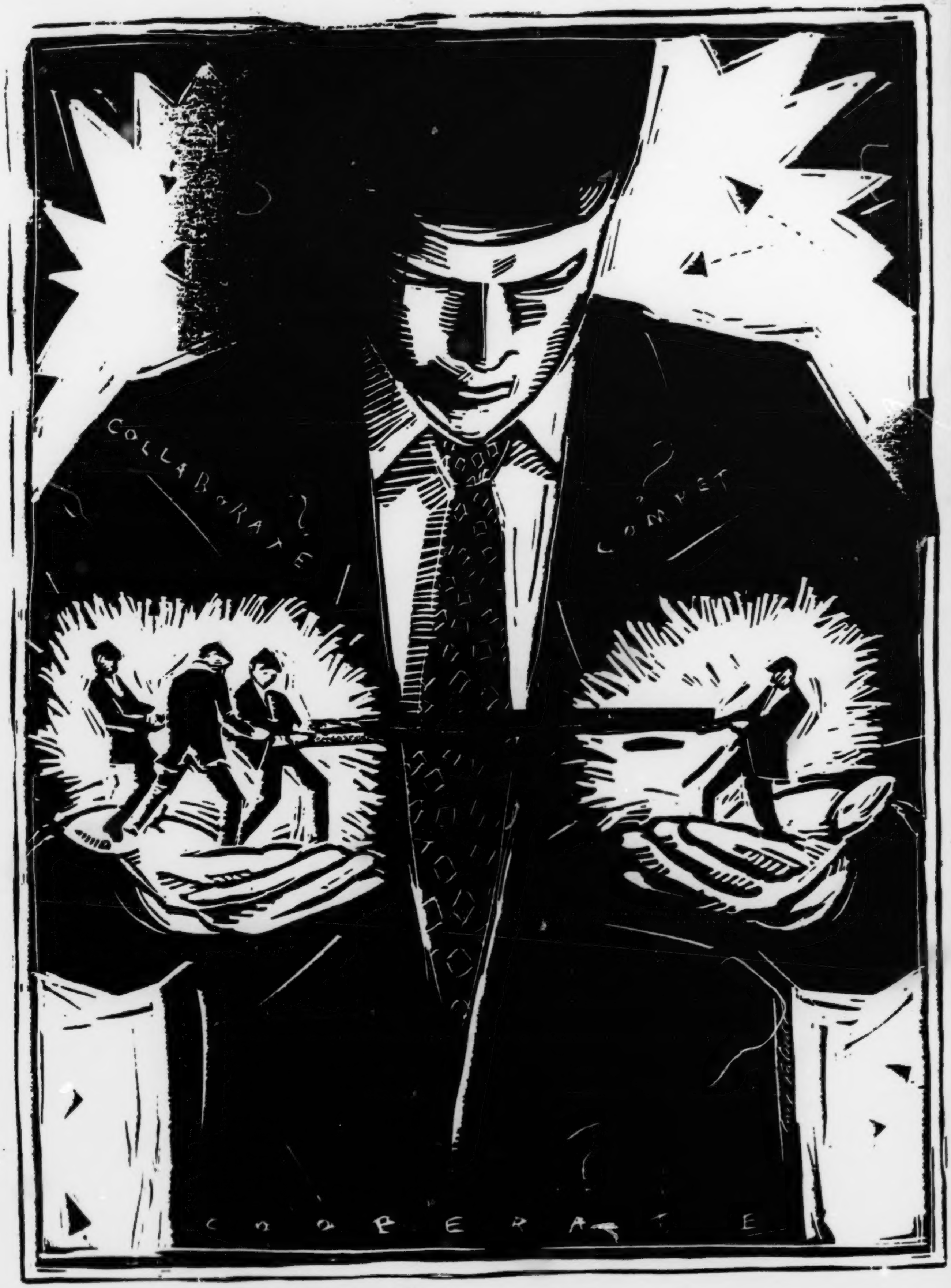
COLLABORATE
COMPETE
COOPERATE

USAir Magazine

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to win, you're undermining both the purpose of competition and yourself. That's not a tactic for ting success."

More signs of destructive competition, by Kanter's reckoning, are when the weaker party gives up rather than continues to fight, and when the stronger party begins to feel dangerously invincible. As for why weaker parties throw in the towel rather than persist in a competition they know they'll lose, "They lack any incentive to keep trying," says Kanter. "Continuing to fight depletes what small reserves they have left. And why bother to meet performance standards if the game is already lost?"

On the other hand, "When stronger parties feel that they can rest easy, that they no longer need to perform according to standards as long as they are clearly winning the battle, then their performance may also deteriorate," explains Kanter. Either way, as the weaker withdraw and the stronger sit on their laurels, the upshot is that overall performance drops, attention is distracted, and options are narrowed rather than increased, she adds.

Knowing the danger signs is a huge step on the way to learning when to let competitive urges blossom and when to nip them in the bud. But just as there are red lights that warn against competition, there are crucial, encouraging green lights.

Let the context determine your operating style, says LeBoeuf. "The more your work is interdependent with others', the less appropriate competition will be," he says. "The more you work independently, the more apt competitiveness is likely to be."

A Lone Sales Executive On The road can—and probably should—pursue the highest levels of competitiveness, while an engineer working in a product-development team will want to develop collaborative skills. "The minute people need anything at all from the efforts of others, or share a future fate, cooperation has all the advantages," Kanter stresses.

Karp echoes that thought, adding, "Outwardly directed competition makes great sense. Inwardly directed competition makes no sense. Of all managerial strategies that have produced internal horror, breeding competition among members of a department or division is probably the most destructive. When it's your company competing against another for sales, go for it. But not when it's you against the guy at the next desk or down the hall."

Is that a blanket ban on in-house competitiveness? As a rule, yes, but another bright green light is scarcity of resources. When there's plenty of growth, let your teamwork shine. But when there's only one vice presidency open and 10 able candidates, compete vigorously for that slot.

Of course, the two forces can be balanced to work together. "Oftentimes we can have it both ways," says Hegarty. "We can compete and cooperate simultaneously. Years ago, when I sold financial instruments, I wanted to be the top producer, bar none. I was intensely competitive, driven. But when I found techniques that worked for me, I told the other salespeople in the office. Why? Wasn't I cutting my throat? I can tell you: When you share, others share with you. When I'd tell co-workers what was working for me, they'd try to top me by sharing their own successful tactics. We all wound up learning and earning more."

"The ideal collaboration is when a group is fully committed in helping each to be the best they can be—the very best—and frequently, that means throwing open the doors to healthy competition," explains Cox, author of *Straight Talk for Monday Morning*. "Competition and conflict can be beneficial when out in the open, and we're all striving for excellence. Absolutely, in-house competition is out of hand when you must lose for me to win, but that's not the way it has to go. It can just as well be about all of us advancing by coming up with the best—the winning—options and solutions." ☐

Robert McGarvey is a free-lance writer based in Los Angeles, who regularly writes on methods of achieving success for USAir Magazine.

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feres with achievement."

Spence's conclusion is rooted in a study of some 4,000 people—ranging from executives to scientists. More proof of the downside of competitiveness comes from a classic 1954 study by then Columbia University sociologist Peter Blau, now a professor at the University of North Carolina at Chapel Hill, who compared two groups of interviewers in an employment agency. In one group, the interviewers fiercely hoarded their information on openings and candidates. In the other group, interviewers shared and shared alike. In the end, the cooperative group routinely filled many more jobs.

A final nail is driven by a comprehensive analysis by brothers David W. and Roger Johnson, University of Minnesota professors who catalogued more than 100 studies of competitive vs. cooperative approaches to education. More than half—65 of the studies—showed that cooperation produced more achievement. A lonely eight studies showed the opposite, with 36 finding no meaningful difference.

Real-life proof emerged in graphic form when the federal Centers for Disease Control pitted in-house research teams against each other in a quest for an AIDS cure a few years ago. According to Rosabeth Moss Kanter in her book ***When Giants Learn to Dance***, team members were highly educated professionals, mainly research scientists and physicians, yet disaster ensued. In their zeal to win, some teams sabotaged the work of others—research was destroyed and experiments contaminated. Turnover soared above 75 percent, and worse, a tragic if unmeasurable loss of valuable research resulted.

IS IT HIGH TIME TO MOVE BEYOND one-on-one dueling and into a workplace marked by teams, group decision-making, even group pay hikes? Not so fast. While no scarcity of pitfalls exists when competitiveness is carried to extremes, another side to that story stands out. "It takes courage to go out into the world, compete for contracts or sales, and succeed," says Spence. "You need a competitive edge for that."

"Of course there is a place—a healthy place—for competitiveness in business," says Virginia Beach consultant Dr. Hank Karp, author of *Personal Power*. "When cooperation is elevated to the level of a corporate must, a result is that healthy competition, creativity, and effectiveness suffer. Competitiveness is integral to the American way. And in itself, competition is neither good nor bad. It's how, when, and where we use it that decides the appropriateness of competition. Exactly the same can be said of collaboration and cooperation."

Oklahoma State University philosophy professor Richard Eggerman concedes that competitiveness is a mixed blessing—it has its risks. But he's adamant that "competition is part of the human condition, and when properly managed, it is a virtue.

> "In itself, competition is neither good nor bad. It's how, when, and where we use it."
>
> Hank Karp

"The real object of competition is to draw the best out of yourself, to rise to your own highest level of performance," explains Eggerman. "Competitors find that it is the competitive situation which routinely leads them to new levels of performance, often feats they did not know they were capable of."

Again we're back to the dilemma outlined by Alexander: We need to be competitive, but do not know when or where. "It's not simple to know when to shift between a competitive and a cooperative gear," says Alexander. "But it is a learnable skill."

Kanter, a Harvard Business School professor, provides a starting point: A sure sign of competitiveness gone awry "is that the players pay more attention to beating their rivals than to performing the task well." But isn't competition all about beating the next guy? Kanter explains why that's not so: "When winning becomes an end in itself, absolute or ideal performance standards lose meaning. It is hard to encourage people to do better, to meet a higher standard, as long as they know they are ahead of their rivals."

New Orleans management consultant Dr. Michael LeBoeuf puts this in sharp business focus by telling how Japanese companies use competitiveness. "The Japanese define their competition in terms of world benchmarks," he says. "The goal is not to be the best domestically—unless that is also the world's best. This is where many U.S. companies have gone astray. They've defined competition using domestic benchmarks, meaning they tried to beat the company down the street or across town. That's not sufficient, not anymore."

AS FOR INDIVIDUALS, MUCH THE SAME is true, say Novato, California, consultant Dr. Christopher Hegarty: "Too often we've defined competition in terms of beating the other guy. That's not what competition really is about. It's doing your personal best, and what's more, just beating the other guy is no longer good enough. In the '90s, if we're to be successful, we're going to have to outwork and outthink our own best past performances, as well as those of our competitors. That means thinking on a larger, grander scale about our missions."

A next sign of competition that's backfiring, says Kanter, is when friendly competition among people who respect each other is replaced by mistrust, suspicion, and scorn. "Any time there's backstabbing, that's clearly unhealthy," says LeBoeuf. "Whenever you're using competition to hurt or demean others, ultimately you're just hurting yourself."

Adds Eggerman, "When you cheat

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WORKPLACE LITERACY PROJECT

May 1, 1992 - October 31, 1992

WRITING

BUSINESS & INDUSTRY TRAINING

a Division of
Mott Community College
Community Education
711 N. Saginaw St., Ste. 123, Flint, MI 48503 (313) 762-0386

WORKPLACE LITERACY

WRITING

Course Outline

Instructor: Julie Steffey April 1, 1992

Course Description

This course is designed to overcome students' writing anxiety and to facilitate their ability to communicate clearly and effectively on paper. Emphasis is placed on development of ideas, organization into paragraph form, and basic rules of sentence boundaries. The course takes a process approach to writing, which divides a writing task into three steps: generating ideas (pre-writing), writing a rough draft (writing), and clarifying and fine-tuning the draft (editing).

Goals *

Students will feel less intimidated by writing tasks, and will become more fluent writers. They will learn the importance of communicating clearly to an audience, and will have a heightened understanding of paragraph organization and sentence structure. Students will build a portfolio of completed handouts and writing assignments.

Instructor Strategy

There will be occasional lectures and handouts, but discussions, hands-on activities, in-class writing, and writing workshops will provide the basis for instruction. Students will have the opportunity to work individually, with a partner, and with the whole class. Individualized instruction will take place through the instructor's written comments on student work.

* Specific performance objectives are attached to course outline.

WORKPLACE LITERACY

WRITING

Performance Objectives

The students will be exposed to and will apply all elements of the writing process to their own written communication. Students' writing will exhibit clarity and cohesiveness.

I. Exposure to the writing process
  A. Introduction to the principles of the process approach
  B. Participate in production of class-wide paper
    1. generate ideas (pre-write)
    2. write rough draft (write)
    3. correct and clarify draft (edit)

II. Apply understanding of the writing process to own writing
  A. Produce individual papers based on specified topics
    1. pre-write
    2. write
    3. edit

III. Understand and apply conventions of paragraph organization
  A. Focus on main idea
  B. Write clear topic sentence that expresses main idea
  C. Support main idea/topic sentence with discussion/examples/details
  D. Conclude paragraph with clear closing statement

IV. Understand and apply basic sentence boundary rules
  A. Identify and correct sentence fragments
  B. Identify and correct comma spliced sentences
  C. Identify and correct fused sentences
  D. Combine groups of sentences without producing sentence boundary errors
  E. Apply understanding to own writing; edit for correct sentence boundaries

V. Understand importance of clarity and apply to own writing
  A. Participate in writers' workshops
    1. comment on other students' work
    2. have own work reviewed by class
  B. Utilize readers' response
    1. be aware of importance of readers' response
    2. use readers' comments as constructive criticism and praise

WORKPLACE LITERACY

WRITING

Syllabus

Session One
- Introduce self
- Students interview then introduce each other
- Discuss objective of course
- Students fill out questionnaire
- Diagnostic writing assignment (pre-test)

Session Two
- Brief introductory lecture on process writing approach
- In-class pre-writing activities: free-writing, cubing, looping, brainstorming
- Begin pre-writing class paper on specific topic

Session Three
- Continue pre-writing class paper
- Begin writing class paper

Session Four
- Continue writing class paper: emphasis on using pre-writing and capturing ideas in a rough draft

Session Five
- Continue writing class paper

Session Six
- Introductory lecture on editing
- Discussion of paragraph organization
- Edit class paper, checking for topic sentence, supporting details, and closing statement

Session Seven
- Introduction to individual writing based on a topic
- In-class oral examples/demonstration followed by assignment
- Pre-writing and writing done in class, followed by workshop

Session Eight
- Discussion of common sentence boundary errors: fragments, comma splices, fuses
- In-class exercises and discussion

Session Nine
- Finish in-class exercises from previous day
- Begin pre-writing for next assignment: Instructions to a partner for drawing a diagram

Session Ten
- Next step in assignment: Students draft diagram instructions for a partner to follow
- Partners follow instructions and produce a diagram
- Students begin editing draft for clarity, based on partner's comments and confusion

Session Eleven
- Continue Editing
- Partners draw new diagram based on edited instructions

Session 12
- Review sentence boundary rules
- Sentence combining exercises

Session 13
- Finish sentence combining exercises-discuss

Session 14
- Discussion of developing main idea more fully
- Pre-write for 200-word assignment
- Begin writing

Session 15
- Continue in-class writing
- Edit writing

Session 16
- Writers' workshop: discussion of each student's paper

Session 17
- Continue writers' workshop

Session 18
- Review of course
- Ungraded "quiz" on sentence boundaries

Session 19
- Finish "quiz" - discuss
- Final writing assignment (post-test)

Session 20
- Pass back students' portfolios
- Distribute progress reports
- Discuss course

Common Sentence Errors

1) Fragments: Incomplete thoughts and incomplete sentences.

2) Comma Splices: Two independent clauses joined by a comma without a coordinating conjunction (a run-on).

3) Fused Sentences: Two independent clauses joined by neither punctuation nor a coordinating conjunction (a run-on).

Coordinating Conjunctions: and, for, but, so, or, nor, yet

Exercises

For each of the following examples indicate what kind of sentence problem exists, then correct the sentence.

1) It's my party I'll cry if I want to.

2) It's a sad fact that although Rex is the most gorgeous man alive and knows how to treat a woman.

3) Mary hates cats she thinks they're nasty little beasts.

4) Pushing her way through the crowded room.

5) Every woman wants a man who's intelligent, sexy, will do the dishes.

6) Getting the right to vote is one thing, using it is another.

7) Constant reading will improve your vocabulary it will also improve your writing.

8) The word "Mississippi" probably comes from the Chippewa term "mici zibi." Which means "great river."

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Common Sentence Errors

Directions: The following paragraph is divided into sentences incorrectly. There may be fragments, comma splices, and fused sentences. Correct the paragraph, using tips from your notes if necessary. Note: There will often be more than one correct way to "fix" a sentence.

For years, atmospheric scientists have studied the ozone layer over Antartica. Hoping to discover why large holes in it appear every spring. They now believe they have the answer manmade chemicals seem to be the culprits. Perhaps even more troubling are the findings of a very recent study, it reveals that a hole in the ozone layer above the Artic appears to be forming. Such holes begging for further research.

Workplace Literacy
Sentence Combining

Directions: Combine this group of sentences into a single sentence. Be sure to include all the information and ideas from the sentences. Do not omit any of these when you reduce the number of words. You don't have to follow the exact order of the original sentences, and remember that there will be more than one correct way to combine sentences.

1. I bought a personal computer.
2. I bought it to play computer games.
3. I bought a word processing progam.
4. I used it to write.
5. I found writing was easier.
6. It was easier because I could make corrections.
7. I make them before I printed anything.
8. I didn't have to type whole pages over.
9. I didn't have to do this to make changes.

Workplace Literacy
Sentence Combining

Directions: Combine each group of sentences into a single sentence. You will end up with a five-sentence paragraph on Nonverbal Behavior.

1. Some things convey messages.
2. One way is the way we dress..
3. One way is how close we stand to other people.
4. One way is whether we make eye contact.
5. One way is whether we touch.
6. One way is what we do with our hands.

7. These are forms of nonverbal behavior.
8. These nonverbal forms of behavior communicate something.
9. They communicate messages.
10. These messages don't employ words.
11. These messages can also enhance.
12. They enhance what our words say.
13. Sometimes, they contradict what our words say.

14. Rolling your eyes is an example.
15. It shows disapproval.
16. It shows this without words.
17. To roll your eyes and say "That's silly" does something else.
18. It reinforces your words.

19. We send other messages.
20. These messages are nonverbal.
21. These messages are about how we feel.
22. We send them at a certain time.
23. At that time we are bored.
24. At that time someone is talking.
25. We look around the room.
26. We play with our hands.
27. We play with a pencil.

28. These activities do something.
29. They send a message.
30. The message is nonverbal.
31. The message says something.
32. It says that we want to escape.
33. It says that we don't want to be here.

SENTENCE COMBINING

Combine each group of sentences into a single sentence. You should end up with a seven-sentence paragraph about horror films.

Horror Films
1. Stephen King wrote a book.
2. The book is called *Danse Macabre*.
3. It was written in 1981.
4. It consists of essays.
5. The essays are about films.
6. The films are about horror.
7. The essays are nonfiction.

8. King says something about art.
9. Art is a piece of work.
10. It is creative.
11. The audience gives something.
12. It gets more than it gives.
13. Horror films offer artistic value.
14. The value lies in a connection.
15. The connection is between fantasy and fear.

16. Something is true.
17. Horror films are not made with art in mind.
18. They are made to make money.
19. Art is not consciously created.
20. It is thrown off.
21. The throwing off is like radiation.
22. The radiation comes from an atomic bomb.

23. Horror films play on something.
24. They play on our fear.
25. We have a fear of death.
26. One type of death can be good.
27. One type of death can be bad.

28. Horror films give us an experience.
29. They make us experience death.
30. The kind of death is bad.
31. This scares us.
32. This is the source of the films' best effects.

33. These films play on our curiosity.
34. We want to know something.
35. It is behind a door.
36. The door is locked.
37. It is in the basement.
38. The basement is in a mortuary.
39. It happens in a graveyard.
40. It happens when the mourners have left.
41. It happens when the moon is dark.

42. King says something else.
43. The films violate taboos.
44. This has value.
45. This helps us to understand.
46. We do this better.
47. We understand what the taboos are.
48. We understand why they make us feel something.
49. We feel uneasy.

Workplace Literacy
Editing Skills: Fragments

Directions: Read the following unedited excerpt from a student paper. Circle any fragments (incomplete sentences). Then correct each fragment either by joining it to the sentence that comes before or after it, or by adding information that turns the fragment into a complete thought. Read the whole paragraph before you start to correct individual groups of words.

I love horror films. Because I like being scared. Of course, I wouldn't like being in a terrifying situation in real life. However, getting my pulse racing. At the same time knowing that I will be safe when the scene is over, knowing that I can close my eyes if the blood and gore get to be too much is fun. Although I don't want to face physical harm. There is a part of me that wants to feel the thrill of danger. Also coming through a horrifying experience and living to tell about it.

The special effects are a turn-on too. Figuring out how they are done. Admiring the skill that is involved in creating them. On the other hand, poorly done effects are fun too. Even though the monster is stepping on cars and cardboard buildings. My friends and I have fun screaming out loud. I remember one film in which a killer baby attacked people. It was so funny. The rubber baby thrown through the air.

Workplace Literacy
Editing Skills: Fragments

Directions: Read the following piece of writing, and correct any fragments. Turn them into sentences by adding missing information or by attaching them to the sentence that comes before or after. In many cases there will be more than one way to correct a fragment. Be sure to read the whole passage before making corrections. You need to see what comes next before you decide whether to link fragments to sentences that precede or follow them.

The Shakers were noted for their fine furniture and their beautiful architecture. Which were constructed with perfect proportions and balance. The Shakers felt that work was a form of prayer, so everything that they did was done the best way they knew how. With total dedication, and they left no rough edges. There were no short cuts. No unfinished corners. Their buildings reflected their beliefs in another way. Since men and women lived separately, for the Shakers did not permit sexual intercourse among members of their sect. They constructed dwellings with separate doors outside and separate staircases inside for use by members of each sex. Because they had few personal possessions. Their rooms were empty and bare. Reflecting the simplicity of their lives, their architecture, furniture, and even their utensils had simple lines. And no trim or fancy designs or carvings of any kind whatsoever. You can see Shaker villages in several states. For instance, in Massachusetts, New Hampshire, Maine, and Kentucky.

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Workplace Literacy
Editing Skills: Run-ons

Directions: Read the following excerpt from an essay on getting a personal computer. and correct any run-ons. Remember that there are many ways to correct a comma-spliced or fused sentence. Be sure to read each paragraph before making any corrections.

I have always been interested in gadgets. Every household gadget that comes on the market is fair game for me. I have had food processors, toaster ovens, electric can openers, and electric tooth brushes by the dozens. However, something about the personal computer scared me.

My initial reaction was that I didn't need one, then some close friends bought one. At their house, I played a game on the computer called Dungeons and Dragons. I was fascinated I felt that a computer was one toy that was just too expensive. I pondered this for about two months meanwhile I recalled what another friend told me when I bought an electronic typewriter. At the time, I was overjoyed with its ability to correct typewritten material without my needing to use whiteout. She said to me,"That's great. but it's nothing compared to a word processor program on a computer." With this in mind, I took the plunge.

Some friends helped me set up the computer they put some word processing programs on it as well as my beloved Dungeons and Dragons. They then told me to read the books on DOS and BASIC, they left I was left with two tomes. Perhaps I should call them tombs. Anyone who has read, or rather attempted to read, a computer manual knows how I felt I couldn't understand a word I was reading.

Workplace Literacy
Editing Skills: Run-ons and Fragments

Directions: Here's more of the paper on computers. This time be on the lookout for both fragments and run-ons. Correct any that you find. In many cases, there is more than one way to improve the sentence boundaries. Remember, read each paragraph before making any corrections.

Terror set in fear came with every breath. What if I break the computer? "You idiot." I said to myself. Then making phone calls. Daily, I called friends for help and instructions. Sometimes, they were quite patient other times they told me. "Read the book it's there, look it up in the index."

I found a book on DOS. While visiting a bookstore. I bought it it made sense. Some computer person knew how to write English. After I made it halfway through this book. Suddenly, all the instructions made sense. I saw the light! I played Dungeons and Dragons until the wee hours of the morning. Played with the word processor. I even bought some new games. Becoming hooked on that little television-like screen.

For more information, contact:
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WORKPLACE LITERACY PROJECT

May 1, 1992 - October 31, 1992

MATH

BUSINESS & INDUSTRY TRAINING

a Division of
Mott Community College
Community Education

711 N. Saginaw St., Ste. 123, Flint, MI 48503 (313) 762-0386

Curriculum Guide
for Literacy Project at Pioneer Cabinet

COURSE OBJECTIVES: The students will be able to read tape measure, solve fractions, use calipers, use calculator, convert fractions to decimals, understand mathematical vocabulary, use digital equipment in plant, perform operations with positive and negative numbers, rounding techniques, order numbers in ascending or descending value and calculate range and calculate averages.

COURSE LENGTH: The class will be conducted two hours per week for ten weeks.

COURSE SITE: The class will be held at Pioneer Cabinet in Davison, Michigan. Some on hands instruction will be in the workplace.

COURSE INSTRUCTOR: Lois Griffin will be the instructor.

COURSE TEXT: Working with Numbers, Steck-Vaughn will be the text.

COURSE MATERIALS NEEDED: Tape measure-inches, calipers, calculator, chalkboard, tables and chairs, pre- and post-tests, various handouts included.

COURSE OUTLINE:

First Week: Pre-test, Reading tape measure

- a. First foot
    - 1. Sixtenths
    - 2. Thirty-secondths
- b. Convert fractions
    - 1. Ratio and proportions
    - 2. Meaning of fractions
- c. Write fractions
- d. Assignment
    - 1. Pages 26 and 27
    - 2. Three fractions to be measured in workplace

Second Week: Fractions

- a. Adding fractions - like denominators
- b. Equal fractions
- c. Reducing fractions
- d. Adding fractions - unlike denominators
- e. Vocabulary of fractions
- f. Assignment
    - 1. Pages 28, 29, 30, 31
    - 2. List three fractions with unlike denominators in workplace

Third Week: Fractions

- a. Review addition of fractions
- b. Subtraction of fractions - like denominators
- c. Subtraction of fractions - unlike denominators
- d. Renaming in subtraction
- e. Assignment
    - 1. Pages 32-43
    - 2. Find three fractions in workplace, add two together, subtract one from the larger. Identify where you found these fractions and the significance.

Fourth Week: Fractions
- a. Multiplication and division
- b. Reducing
- c. Comparison
- d. Assignment
    - 1. Pages 44-55
    - 2. Using tape measure, add three measurements, subtract three measurements using fractions.

Fifth Week: Decimals
- a. The meaning of decimals
- b. Reading and writing decimals
- c. Decimals and common fractions
- d. Comparing decimals
- e. Calculator use
    - 1. Change fraction to decimal
    - 2. Add and subtract
- f. Tolerance
- g. Assignment
    - 1. Pages 56-64
    - 2. Find three examples of tolerance allowable in your worksite

Sixth Week: Decimals and calculator usage
- a. Calculator practice
    - 1. Addition
    - 2. Subtraction
    - 3. Multiplication
    - 4. Division
- b. Multiplication of decimals
- c. Division of decimals
- d. Terminating and repeating decimals
- e. Rounding
- f. Assignment
    - 1. Pages 65-78
    - 2. Find three examples for use of calculator on worksite

Seventh Week: Calipers
- a. Calibrations
    - 1. 1/64 inch
    - 2. 0.01 inch
- b. Comparison of caliper measurement and tape measure
- c. Practice in plant site using calipers
- d. Assignment
    - 1. Three practical applications of using calipers to be within tolerance level needed

Eighth Week: Digital machine
- a. Use of machine
- b. Settings
- c. Reading the digital display
- d. Common fractions used in plant
- e. Converting common fractions to decimals for digital machine
- f. Assignment
    - 1. Use digital machine with three pieces of different thickness of frame

Ninth Week: Statistical Vocabulary

a. Median
b. Mode
c. Mean
d. Variance
e. Variables
f. Measures of variability
g. Parameter
h. Range
i. Statistical significance
j. Assignment
    1. Find the variance in three different pieces of wood in your workplace
    2. Find the mean to the nearest 0.001 on the above activity
    3. Work on handouts

Tenth Week: Operations of positive and negative numbers

a. Math symbols
b. Algebraic operations
c. Number line facts
d. Positive and negative numbers
e. Assignment
    1. Do handouts
    2. Post-test

NAME______________

MATH PRETEST

TOPIC 2 - ADDITION

1) 387
463
+954

2) 5,692
38
436
+3,888

3) 688 + 4,999 = ________

4) 605 + 37 + 5,692 = ________

TOPIC 3 - SUBTRACTION

5) 6,384
-3,223

6) 8,000
-3,467

7) 9,841
-6,972

8) 12,386
-9,999

TOPIC 3 - MULTIPLICATION

9) 38
x40

10) 97
x45

11) 463
x907

12) 386
x249

TOPIC 5 - DIVISION

13) $5\overline{)375}$

14) $36\overline{)1,440}$

15) $23\overline{)7,038}$

16) $45\overline{)20,520}$

TOPIC 6 - INTRODUCTION FRACTIONS

17) Reduce $\frac{25}{45}$

19) Change 6 1/2 to an Improper fraction

18) $\frac{3}{7} = \frac{\_\_}{28}$

20) Change $\frac{21}{4}$ to a mixed numeral

TOPIC 7 - ADDING FRACTIONS

21) 4/7
+1/2

22) 3 1/3
+2 4/5

23) 2/3
+1 7/9

24) 5 5/6
+2 1/12

TOPIC 8 - SUBTRACTING FRACTIONS

25) 4 1/2
-2 1/3

26) 5 4/7
-3

27) 9
-3 4/ 5

28) 3 1/3
-1 4/5

TOPIC 9 - MULTIPLICATION & DIVISION OF FRACTIONS

29) 9 x 2/3 =

30) 4 1/2 x 2 2/3 =

31) 1 1/2 ÷ 4 =

32) 4 5/6 ÷ 3 1/2 =

TOPIC 10 - ADDITION & SUBTRACTION OF DECIMALS

33) Write 2/5 as a decimal ________

34) Write .07 as a fraction ________

35) 5.9 + 13 + 62.8 = __________

36) 5.8 - 3.96 = ________

TOPIC 11 - MULTIPLICATION & DIVISION OF DECIMALS

37) 48
x3.8

38) .03
x.08

39) $54\overline{)1.08}$

40) $3.9\overline{)17.94}$

TOPIC 13 - PERCENTS

41) Write 75% as a decimal _____

42) 12 is 20% of what no.?____

42) 15 Is what percent of 75? _____

44) 30% Of 50 is what? _____

Basic Math   Comprehensive test   No Calculator   Name __________

1. Find the product of 97 and 38.

a. 59   d. 3686
b. 135   e. 2686
c. 3693

2. Subtract 518 from 855

a. 343   d. 237
b. 347   e. 1373
c. 337

3. What is 2/3 X 13

a. 8 2/3   d. 19 1/2
b. 2/39   e. 29/39
c. 2 6/11

4. What is the answer to this problem ? 1/3 ÷ 4

a. 1 1/3   d. 3 1/4
b. 1/12   e. 12
c. 4/3

5. What is 1/3 of 1/5

a. 1 2/3   d. 3/5
b. 15   e. 1/15
c. 2/15

6. What is the answer to this problem ? 15 - 6 3/5

a. 12/5   d.9 2/5
b. 8 3/5   e.9 3/5
c. 8 2/5

7. what is the answer to this problem ?
34 1/3 - 12 2/5

a. 21 3/5   d. 22 9/15
b. 22 14/15   e. 21 14/15
c. 21 1/15

8. What is 36 X 4/9

a. 144   d. 3/324
b. 16   e. 81
c. 8

9. Which answer is the correct sum of 1/3, 7 3/4, and 4 5/6

a. 12 2/3   d. 11 11/12
b. 13   e. 11 9/13
c. 12 11/12

10. What is the sum of:
0.7 + 0.5 + 0.8 + 0.2

a. 2.1   d. 0.22
b. 2.3   e. 2.2
c. 0.0022

11. Rearrange the numbers 0.9, 0.098, and 0.92 so that the largest is first and the smallest is last.

a. 0.9   0.098   0.92
b. 0.92   0.9   0.098
c. 0.92   0.98   0.9
d. 0.98   0.92   0.9
e. 0.98   0.9   0.92

12. What is the answer to this problem:0.48 ÷ 1000?

a. 480   d. 2083
b. 0.0048   e. 2.083
c. 0.00048

13. 0.125 equals ?

a. 8%   d. 125%
b. 1.250%   e. 12.5%
c. 1.25%

For items 14, 15, 16 correctly locate the decimal point in each answer.

14. $4.38 × 0.8 = $3504

a. $35.04
b. $3.504
c. $350.40
d. $0.3504
e. $0.03504

15. 0.16 × 0.05 = 8

a. 0.8
b. 8.0
c. 0.08
d. 0.008
e. 80

16.

```
        29
0.15 /435
      30
     _135
      135
      000
```

a. 2900
b. 0.029
c. 2.9
d. 290
e. 29

17. Select the correct response when the fraction 1/9 is changed to a percent.

a. 9%
b. 11.9%
c. 1.19%
d. 11 1/9%
e. 90%

18. $6 + 12 \div 3 + 4 - 3 = ?$

a. 7
b. 11
c. 4 1/2
d. 9
e. 5

19. How much is 4% of $6.50?

a. $1.625
b. $0.26
c. $162.50
d. $2600.00
e. $26.00

20. $(6 + 3)^2 = ?$

a. 45
b. 18
c. 3
d. 27
e. 81

21. (-7)(-2)(5) = ?

a. 70
b. -70
c. -4
d. 14
e. -14

22. The area of a rectangle equals length x width. Find the area of a rectangle whose length is 12 inches and width is 3 inches

a. 36
b. 36 in.
c. 30 in.
d. 36 sq. in.
e. 15

23. What percent of $75.00 is $150.00?

a. 200%
b. 1/2%
c. 150%
d. 1 1/4%
e. 50%

24. Write an expression that indicates 25 less than y.

a. 25-y
b. y-25
c. x-25 = y
d. y = 25-x
e. $y \div 25$

25. $(3 + 2)^2 + 15 \div 5 - 4 = ?$

a. 40
b. 12
c. 4
d. 24
e. 1 3/5

MATH SYMBOLS

SYMBOL	*NAME*	*OPERATIONS*	*EXAMPLE*
+	PLUS	ADD	$1 + 3 = 4$
−	MINUS	SUBTRACT	$4 - 3 = 1$
X	TIMES	MULTIPLY	$2 \times 3 = 6$
•	TIMES	MULTIPLY	$2 \cdot 3 = 6$
2(3)	TIMES	MULTIPLY	$2(3) = 6$
2b	TIMES	MULTIPLY	2 TIMES THE VALUE b
÷	DIVIDED BY	DIVISION	$6 \div 3 = 2$
$\overline{)}$	DIVIDED BY	DIVISION	$\begin{array}{r} 2 \\ 3\overline{)6} \end{array}$
/	DIVIDED BY	DIVISION	$6/3 = 2$
$\frac{6}{3}$	DIVIDED BY	DIVISION	$\frac{6}{3} = 2$
=	EQUAL TO	THE SYMBOL THAT PRECEDES THE ANSWER	$1 + 2 = 3$

ALGEBRAIC OPERATIONS

SYMBOL	***NAME***	***OPERATIONS***	***EXAMPLE***
( )	THE QUANTITY	PERFORM THE OPERATION INSIDE THE PARENTHESIS FIRST.	3 + (2 X 4) 3 + 8 = 11
Σ	THE SUM OF	ADD ALL VALUES	ΣX WHEN X = 7, ΣX = 7+3+2 ΣX = 12
x^2	A "QUANTITY" SQUARED	A NUMBER MULTIPLIED BY ITSELF	3^2 = 3 X 3
$\sqrt{x}$	THE SQUARE ROOT OF A QUANTITY	A NUMBER THAT WHEN MULTIPLIED BY ITSELF WILL EQUAL THE VALUE CONTAINED IN THE SQUARE ROOT SIGN	$\sqrt{16}$ = 4 4 X 4 = 1

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ADDITION OF WHOLE NUMBERS

ADDITION IS THE PROCESS OF ADDING OR COMBINING NUMBERS OR VALUES FOR THE PURPOSE OF FINDING THE SUM.

EXAMPLE:

A)
$$\begin{array}{r} 28 \\ 3457 \\ +\ 961 \\ \hline 4,446 \end{array}$$

B)
$$\begin{array}{r} 9,386 \\ +\ 2,975 \\ \hline 12,361 \end{array}$$

C) 36 + 297 + 54 + 8,632 = 9,019

USING THE CALCULATOR FOR ADDITION – EXAMPLE A ABOVE:

1) PRESS $\boxed{\text{on/c}}$ TO CLEAR DISPLAY
2) PRESS THE NUMBER KEYS FOR THE FIRST NUMBER $\boxed{2}\ \boxed{8}$
3) PRESS THE ADDITION KEY $\boxed{+}$
4) PRESS THE NUMBER KEYS FOR THE SECOND NUMBER $\boxed{3}\boxed{4}\boxed{5}\boxed{7}$
5) PRESS THE ADDITION KEY $\boxed{+}$
6) ENTER THE THIRD NUMBER $\boxed{9}\ \boxed{6}\ \boxed{1}$
7) PRESS THE EQUAL SIGN $\boxed{=}$
8) THE SUM, 4446 WILL APPEAR IN THE DISPLAY WINDOW

EXAMPLE B

PRESS	on/c	9	3	8	6	+	2	9	7	5	=

THE SUM, 12 361 WILL APPEAR IN THE DISPLAY

SUBTRACTION OF WHOLE NUMBERS

SUBTRACTION IS THE PROCESS OF TAKING OR DEDUCTING ONE NUMBER OR QUANTITY FROM ANOTHER.

EXAMPLES:

A) 78
− 29
49

B) 23,572
− 986
22,586

C) 7,659 − 982 = 6,677

USING THE CALCULATOR FOR SUBTRACTION – EXAMPLE A ABOVE

1) PRESS on/c CLEAR DISPLAY
2) ENTER THE FIRST NUMBER 7 8
3) PRESS THE SUBTRACTION KEY −
4) ENTER THE SECOND NUMBER 2 9
5) PRESS =
6) THE DIFFERENCE,(ANSWER) 49, WILL APPEAR IN THE DISPLAY

EXAMPLE B:

PRESS

on/c	2	3	5	7	2	−	9	8	6	=

THE DIFFERENCE, 22 586 WILL APPEAR IN THE DISPLAY

MULTIPLICATION OF WHOLE NUMBERS

MULTIPLICATION IS THE PROCESS OF INCREASING ONE NUMBER A SPECIFIED NUME OF TIMES. FOR INSTANCE, THE NUMBER 6 INCREASED 3 TIMES IS WRITTEN (3X6).

EXAMPLE – MULTIPLICATION:

A) 372	(B) 135	(C) 3,494	(D) 728
X 6	X 28	X 6	X 365
2,232	3780	20,964	265,720

USING THE CALCULATOR – EXAMPLE A:

1) PRESS THE on/c
2) ENTER THE FIRST NUMBER 3 7 2
3) PRESS FUNCTION KEY X
4) ENTER THE SECOND NUMBER 6
5) PRESS -
6) THE ANSWER, 2,232 WILL APPEAR IN THE DISPLAY

EXAMPLE B:

PRESS on/c 2 8 X 1 3 5 -

THE ANSWER , 3 780 WILL APPEAR IN THE DISPLAY WINDOW.

DIVISION OF WHOLE NUMBERS

DIVISION IS THE PROCESS OF DETERMINING HOW MANY TIMES ONE NUMBER I
IN ANOTHER. FOR INSTANCE, TO FIND OUT HOW MANY 7's ARE IN 42, YOU WR
$42 \div 7 = 6$.

NOTE: THERE ARE FOUR SYMBOLS FOR DIVISION

EXAMPLES:

A) $391 \div 23 = 17$

C) $63/9 = 7$

B) $\begin{array}{r} 21 \\ 37\overline{)777} \end{array}$

D) $\dfrac{874}{46} = 19$

USING THE CALCULATOR – EXAMPLE A:

1) PRESS THE $\boxed{\text{on/c}}$ KEY

2) ENTER THE NUMBER TO BE DIVIDED $\boxed{3}$ $\boxed{9}$ $\boxed{1}$

3) PRESS THE FUNCTION KEY $\boxed{\div}$

4) ENTER THE NUMBER DIVIDED BY $\boxed{2}$ $\boxed{3}$

5) PRESS $\boxed{=}$

6) THE ANSWER, 17, WILL APPEAR IN THE DISPLAY WINDOW

EXAMPLE B:

PRESS $\boxed{\text{on/c}}$ $\boxed{7}$ $\boxed{7}$ $\boxed{7}$ $\boxed{\div}$ $\boxed{3}$ $\boxed{7}$ $\boxed{=}$
THE ANSWER, 21, WILL APPEAR IN THE DISPLAY WINDOW

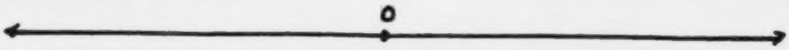
THE NUMBER LINE

The number line is a device used by mathematicians to help them see certain number relationships.

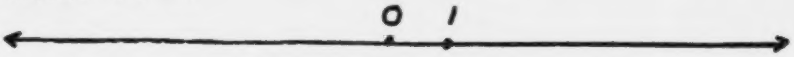
CONSTRUCTING A NUMBER LINE.

STEP 1. Draw a line.

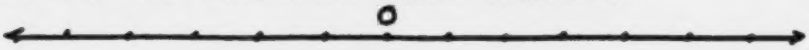
STEP 2. Select any point on the line and label it with the number 0.



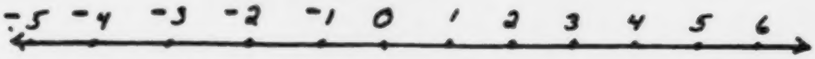
STEP 3 Select another point to the right of 0 and label it 1.



STEP 4 Use the length of the segment from 0 to 1 to divide the line into equal segments.



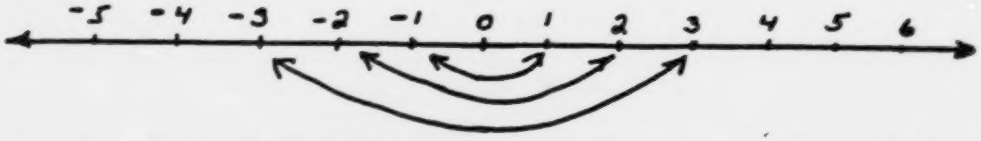
STEP 5 Label the points as shown.



The -4 means that the point is 4 units to the left of 0.

NUMBER LINE FACTS

Every point to the right of 0 has a partner to the left of 0 which is exactly the same distance from 0. We use "+" sign to indicate that a number is to the right of 0 and a "-" sign to indicate that a number is to the left of 0.



If you select two numbers and locate them on the number line the one to the right is always the largest number.

EXAMPLES:	7 is larger than 4
	2 is larger than -1
	-2 is larger than -4
	0 is larger than -10
	2.5 is larger than -5.2

The distance from a number to 0 is called the absolute value of the number.

EXAMPLES:	The absolute value of 6 is 6.
	The absolute value of -5 is 5.
	The absolute value of -3.2 is 3.2.

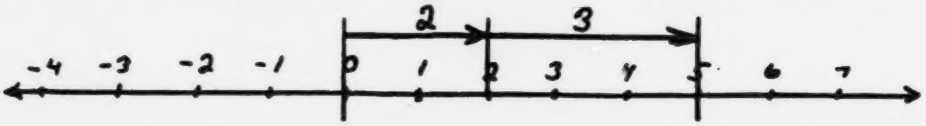
POSITIVE AND NEGATIVE NUMBERS

We can use a number line to help understand the rules for adding, subtracting, multiplying and divideing positive and negative numbers.

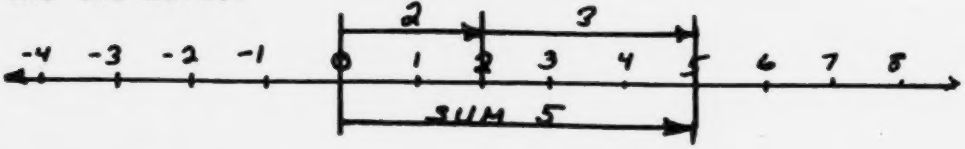
2 + 3 = 5 can be pictured on the number line if we let:

2 mean a move of 2 units to the right.
3 mean a move of 3 units to the right.
+ mean "followed by".

Then 2 + 3 means to start at 0 and move 2 units to the right followed by a move of 3 units to the right.



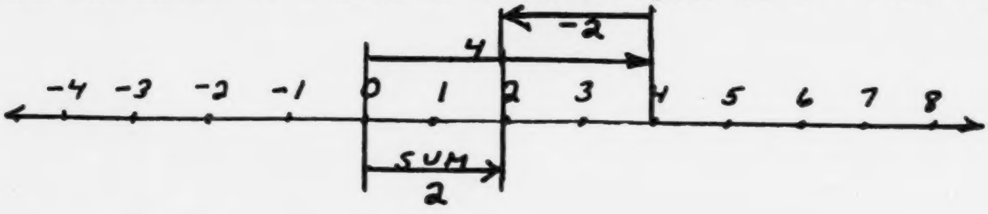
The sum of 2 + 3 is the single move that would replace the two moves.



Another example: 4 + (-2) or

$$\begin{array}{r} 4 \\ \underline{+\ -2} \end{array}$$

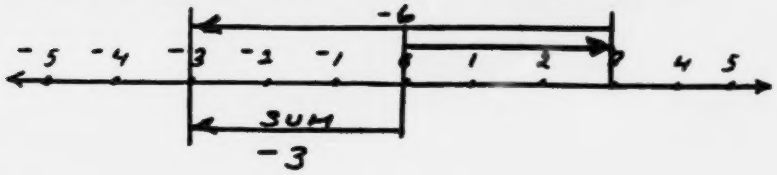
Start at 0 and move 4 units right and then move 2 units to the left. The sum or single move that would replace the two moves is a move of 2 units right. So 4 + (-2) = 2.



POSITIVE AND NEGATIVE NUMBERS

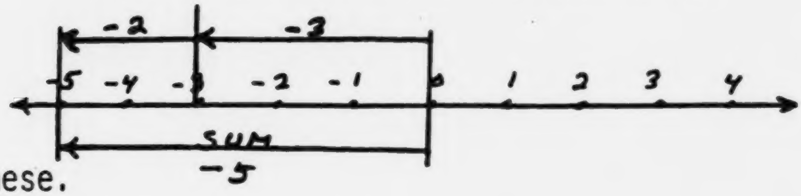
EXAMPLE: 3 + (-6) = -3

Start at 0 and move 3 units to the right then move 6 units left. The sum is -3.


-6
-5 -4 -3 -2 -1 0 1 2 3 4 5
SUM
-3

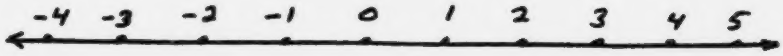
EXAMPLE: -3 + (-2) = -5

Start at 0 and move 3 units to the left then move 2 units left. The sum is -5.


-2
-3
-5 -4 -3 -2 -1 0 1 2 3 4
SUM
-5

You try these.

Example: -3 + 7 = 4


-4 -3 -2 -1 0 1 2 3 4 5

Example: -4 + (-3) = -7

-7 -6 -5 -4 -3 -2 -1 0 1 2

Example: -5 + 8 = 3

-5 -4 -3 -2 -1 0 1 2 3 4

POSITIVE AND NEGATIVE NUMBERS

OBSERVATION OF THE RESULTS OF MANY ADDITION PROBLEMS USING THE NUMBER LINE CAN VERIFY THAT THE FOLLOWING RULES FOR ADDITION OF POSITIVE AND NEGATIVE NUMBERS ARE TRUE.

RULES FOR ADDITION OF POSITIVE AND NEGATIVE NUMBERS

IF YOU ADD A POSITIVE TO A POSITIVE THE SUM IS POSITIVE.

IF YOU ADD A POSITVE AND A NEGATIVE THE SUM HAS THE SAME SIGN AS THE NUMBER WITH THE LONGEST DISTANCE FROM 0.

IF YOU ADD A NEGATIVE TO A NEGATIVE THE SUM IS ALSO NEGATIVE.

*NOTE: THE CALCULATOR AUTOMATICALLY PUTS THE CORRECT SIGN ON THE ANSWER.

POSITIVE AND NEGATIVE NUMBERS

RULES FOR ADDITION

REMINDER: THE + AND – SYMBOLS CAN BE SIGNS OF OPERATION OR SIGNS OI POSITIVE OR NEGATIVE VALUE.

IN MOST INSTANCES, A POSITIVE NUMBER WILL NOT HAVE THE POSITIVE SIGN (+) ATTACHED TO IT.

1) WHEN ADDING NUMBERS WITH THE SAME SIGN, FIND THE SUM AND ATTACH THE SIMILAR SIGN.

EXAMPLE – ADDITION:

A) 6	B) −5	C) 3	D) −4
7	−8	5	−6
		1	−9
13	−13	9	−19

USING THE CALCULATOR – EXAMPLE A ABOVE:

1) PRESS $\boxed{\text{on/c}}$ TO CLEAR DISPLAY
2) ENTER FIRST NUMBER $\boxed{6}$
3) PRESS $\boxed{+}$ (FUNCTION KEY)
4) ENTER THE SECOND NUMBER $\boxed{7}$
5) PRESS $\boxed{=}$

- THE SUM, 13 WILL APPEAR IN THE DISPLAY WINDOW

USING THE CALCULATOR – EXAMPLE B:

1) PRESS $\boxed{\text{ON/C}}$ TO CLEAR THE CALCULATOR

2) ENTER THE FIRST NUMBER $\boxed{5}$

3) PRESS $\boxed{+/-}$ KEY TO SHOW THE 5 IS NEGATIVE

4) PRESS $\boxed{+}$ (TO PERFORM ADDITION FUNCTION)

5) ENTER THE SECOND NUMBER $\boxed{8}$

6) PRESS THE $\boxed{+/-}$ KEY TO SHOW THE 8 IS NEGATIVE

7) PRESS $\boxed{=}$

8) THE SUM, −13 WILL APPEAR IN THE DISPLAY

2) WHEN ADDING NUMBERS WITH DIFFERENT SIGNS, FIND THE DIFFERENCE BETWEE THE NUMBERS AND ATTACH THE SIGN OF THE LARGER NUMBER.

EXAMPLE – ADDITION:

A) $\begin{array}{r} 15 \\ -7 \\ \hline 8 \end{array}$ B) $\begin{array}{r} -8 \\ 2 \\ \hline -6 \end{array}$ C) $\begin{array}{r} 3 \\ -12 \\ \hline -9 \end{array}$ D) $\begin{array}{r} -5 \\ 9 \\ \hline 4 \end{array}$

E) $\begin{array}{r} \left.\begin{array}{r} -3 \\ -5 \end{array}\right\rangle \\ 12 \\ \hline \end{array} \quad \begin{array}{r} -8 \\ 12 \\ \hline 4 \end{array}$

F) $\begin{array}{r} -4 \\ \left.\begin{array}{r} 6 \\ 3 \end{array}\right\rangle \\ \hline \end{array} \quad \begin{array}{r} -4 \\ 9 \\ \hline 5 \end{array}$

USING THE CALCULATOR – EXAMPLE A:

1) PRESS on/c
2) ENTER THE FIRST NUMBER 1 5
3) PRESS THE + FUNCTION KEY
4) ENTER THE SECOND NUMBER 7
5) PRESS +/– TO SHOW 7 IS A NEGATIVE NUMBER
6) PRESS =
7) THE SUM, 8, WILL APPEAR IN THE DISPLAY WINDOW

EXAMPLE B:

PRESS on/c 8 +/– + 2 =

THE SUM, –6, WILL APPEAR IN THE DISPLAY WINDOW.

POSITIVE AND NEGATIVE NUMBERS
EXERCISE
ADDITION

A) $\begin{array}{r} ^{-}4 \\ +\ \ 8 \\ \hline \end{array}$

B) $\begin{array}{r} ^{-}8 \\ +\ \ 4 \\ \hline \end{array}$

C) $\begin{array}{r} ^{-}4 \\ +\ ^{-}8 \\ \hline \end{array}$

D) $\begin{array}{r} 7 \\ +\ ^{-}7 \\ \hline \end{array}$

E) $\begin{array}{r} ^{-}3 \\ 13 \\ +\ ^{-}18 \\ \hline \end{array}$

F) $\begin{array}{r} ^{-}10 \\ ^{-}9 \\ +\ ^{-}19 \\ \hline \end{array}$

G) $\begin{array}{r} 56 \\ ^{-}39 \\ +\ 82 \\ \hline \end{array}$

H) $\begin{array}{r} ^{-}99 \\ 16 \\ +\ 8 \\ \hline \end{array}$

I) $123 + {}^{-}108 + 98 + {}^{-}489 =$

J) $18 + 123 + {}^{-}67 + 111 =$

K) $1056 + {}^{-}9800 + 19 + 502 =$

L) $18 + {}^{-}22 + {}^{-}36 + {}^{-}14 =$

M) $16 + {}^{-}108 + {}^{-}13 + {}^{-}76 + 54 =$

N) $103 + {}^{-}14 + 41 + {}^{-}301 + {}^{-}103 + {}^{-}404 =$

POSITIVE AND NEGATIVE NUMBERS

ADDITION

ANSWERS

A. 4

B. -4

C. -12

D. 0

E. -8

F. -38

G. 99

H. -75

I. -376

J. 185

K. -8223

L. -54

M. -127

N. -678

POSITIVE AND NEGATIVE NUMBERS

ADDITION AND SUBTRACTION ARE OPPOSITE OPERATIONS.

ALL SUBTRACTION PROBLEMS CAN BE CONVERTED INTO ADDITION PROBLEMS WHICH ELIMINATES THE NEED FOR A NEW SET OF RULES FOR SUBTRACTION.

10 - 5 CONVERTS INTO 10 + (-5)
-4 - 3 CONVERS INTO -4 + (-3)
5 - (-2) CONVERTS INTO 5 + (2)

$$\begin{array}{r} 7 \\ -\ 4 \\ \hline \end{array} \quad \text{CONVERTS INTO} \quad \begin{array}{r} 7 \\ +\ (-4) \\ \hline \end{array}$$

RULE:

TO CHANGE A SUBTRACTION PROBLEM INTO AN ADDITION PROBLEM SIMPLY REVERSE THE SIGN OF THE NUMBER THAT IS BEING SUBTRACTED.

*NOTE

THE CALCULATOR AUTOMATICALLY PUTS THE CORRECT SIGN ON THE ANSWER.

POSITIVE AND NEGATIVE NUMBERS

RULES FOR SUBTRACTION

EN SUBTRACTING, CHANGE THE SIGN OF THE NUMBER THAT YOU ARE SUBTRACTING, THEN ADD. (REMEMBER TO FOLLOW THE RULES FOR ADDITION)

LE – SUBTRACT:

$\xrightarrow{\text{STAYS SAME}}$ 16

$\xrightarrow{\text{CHANGE SIGN}}$ (+) 9

25 (ADDITION RULE #1)

$\xrightarrow{\text{SAME}}$ 19

$\xrightarrow{\text{CHANGE}}$ –8

11 (ADDITION RULE #2)

–7 → –7
–6 → (+) 6
–1

(D) –15 → –15
(–) 8 → (+) –8
–23

(E) –1
(–) 8
–9

USING THE CALCULATOR – EXAMPLE A:

RESS THE on/c KEY

NTER THE FIRST NUMBER 1 6

RESS THE – (FUNCTION KEY)

NTER THE NUMBER THAT YOU ARE SUBTRACTING 9

RE +/– (TO INDICATE THE 9 IS NEGATIVE)

RESS =

HE DIFFERENCE, 25, WILL APPEAR IN THE DISPLAY

BEST COPY AVAILABLE

POSITIVE AND NEGATIVE NUMBERS
PRACTICE PROBLEMS

A. 1098 - (-981)

B. -182 - 97

C. -321 - (-123)

D. -5678 - (-971)

SUBTRACT THE FOLLOWING

E. -58
32

F. -1067
-986

G. 398
-462

H. -1666
-1098

I. 98
-78

J. -255
-72

K. -22
-13

POSITIVE AND NEGATIVE NUMBERS

SUBTRACTION

ANSWERS

A.	2079
B.	-279
C.	-198
D.	-4707
E.	-90
F.	-80
G.	860
H.	-568
I.	176
J.	-153
K.	-9

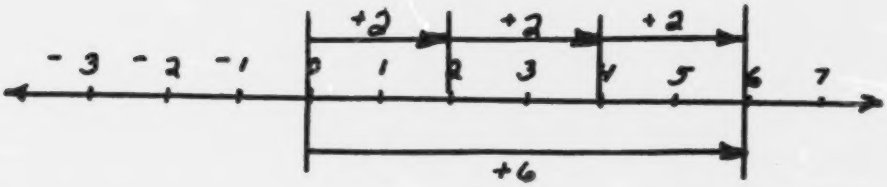
POSITIVE AND NEGATIVE NUMBERS

MULTIPLICATION

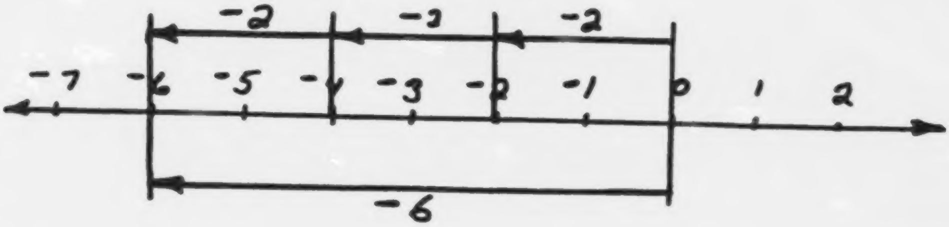
THE NUMBER LINE CAN ALSO HELP YOU UNDERSTAND THE SIGN RULES FOR MULTIPLING POSITIVE AND NEGATIVE NUMBERS.

EXAMPLE: 3 x 2 = 6

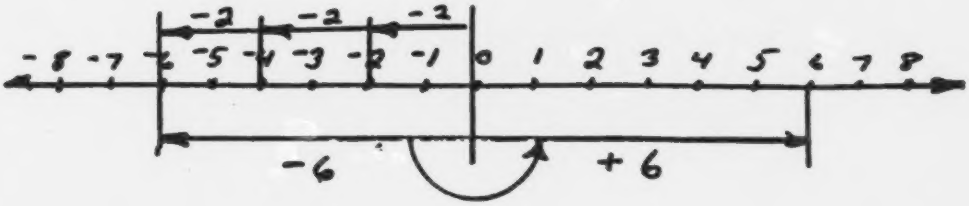
THIS CAN BE SHOWN ON THE NUMBER LINE AS 3 MOVES OF LENGTH 2 WHICH COULD BE REPLACED WITH ONE MOVE OF 6.


+2
+2
+2
-3
-2
-1
0
1
2
3
4
5
6
7
+6

EXAMPLE: 3 x (-2) = -6


-2
-2
-2
-7
-6
-5
-4
-3
-2
-1
0
1
2
-6

EXAMPLE: $\underbrace{(-3)}_{\text{The opposite of 3 moves}} \times (-2) = 6$


-2
-2
-2
-8
-7
-6
-5
-4
-3
-2
-1
0
1
2
3
4
5
6
7
8
-6
+6

POSITIVE AND NEGATIVE NUMBERS

MULTIPLICATION

OBSERVATION OF THE RESULTS OF MANY MULTIPLICATION PROBLEMS USING THE NUMBER LINE CAN VERIFY THAT THE FOLLOWING RULES FOR MULTIPLYING POSITIVE AND NEGATIVE NUMBERS ARE TRUE.

RULES:

A POSITIVE TIMES A POSITIVE IS POSITIVE.
A POSITIVE TIMES A NEGATIVE IS NEGATIVE.
A NEGATIVE TIMES A NEGATIVE IS POSITIVE.

*NOTE:

THE CALCULATOR AUTOMATICALLY PUTS THE CORRECT SIGN ON THE ANSWER.

DIVISION

DIVISION IS THE OPPOSITE OF MULTIPLICATION SO THE RULES FOR DIVISION OF POSITIVE AND NEGATIVE NUMBERS ARE THE SAME AS THEY ARE FOR MULTIPLICATION.

RULES:

A POSITIVE DIVIDED BY A POSITIVE IS POSITIVE.
A POSITIVE DIVIDED BY A NEGATIVE IS NEGATIVE.
A NEGATIVE DIVIDED BY A POSITIVE IS NEGATIVE.
A NEGATIVE DIVIDED BY A NEGATIVE IS POSITIVE.

POSITIVE AND NEGATIVE NUMBERS

RULES FOR MULTIPLICATION

WHEN MULTIPLYING TWO NUMBERS WITH THE SAME SIGN, THE ANSWER WILL ALWAYS BE POSITIVE. THIS IS TRUE WHEN BOTH SIGNS ARE POSITIVE OR NEGATIVE.

EXAMPLE:

A)	B)	C)	D)
5	−7	25	−33
X 6	X −3	X 4	X −2
30	21	100	66

USING THE CALCULATOR – EXAMPLE A:

1) PRESS THE on/c
2) ENTER THE NUMBER 5
3) PRESS THE FUNCTION KEY X
4) ENTER THE SECOND NUMBER 6
5) PRESS =
6) THE ANSWER, 30, WILL APPEAR IN THE DISPLAY

EXAMPLE B:

PRESS	on/c	7	+/−	X	3	+/−	=

THE ANSWER, 21, WILL APPEAR IN DISPLAY

2) WHEN MULTIPLYING TWO NUMBERS WITH OPPOSITE SIGNS, THE ANSWER WILL BE NEGATIVE.

EXAMPLE:

A)	B)	C)	D)
12	−6	−21	15
X −4	X 11	X 3	X −5
−48	−66	−63	−75

USING THE CALCULATOR – EXAMPLE A:

1) PRESS $\boxed{\text{on/c}}$
2) ENTER THE FIRST NUMBER $\boxed{1}$ $\boxed{2}$
3) PRESS THE FUNCTION KEY $\boxed{\text{X}}$
4) ENTER THE SECOND NUMBER $\boxed{4}$
5) PRESS $\boxed{+/-}$ TO SHOW THE 4 IS NEGATIVE
6) PRESS $\boxed{=}$
7) THE ANSWER, −48, WILL APPEAR IN THE DISPLAY WINDOW

EXAMPLE B:

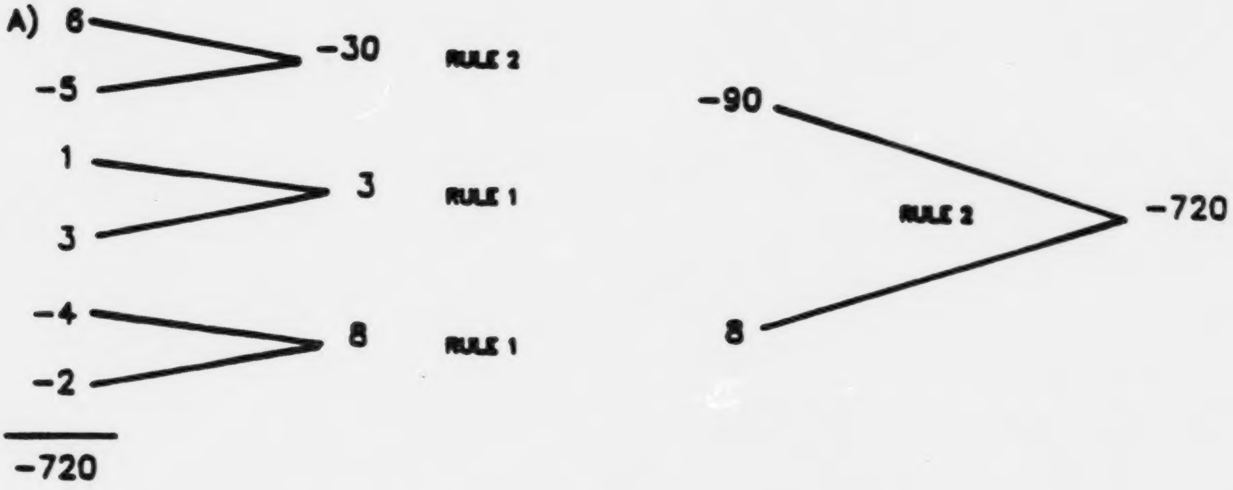
PRESS $\boxed{\text{on/c}}$ $\boxed{6}$ $\boxed{+/-}$ $\boxed{\text{X}}$ $\boxed{1}$ $\boxed{1}$ $\boxed{=}$

THE ANSWER, −66, WILL APPEAR IN THE DISPLAY

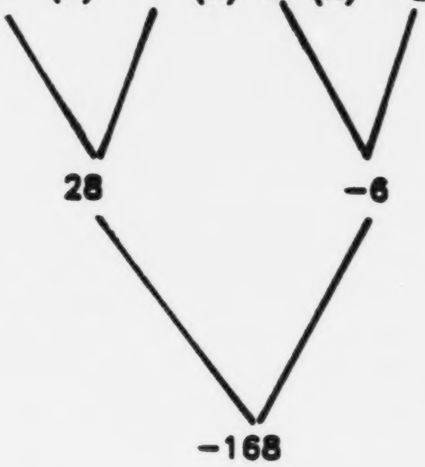
3) WHEN MULTIPLYING MORE THAN TWO NUMBERS, APPLY RULE 1 OR 2, WHICHEVER IS APPLICABLE, TO SUCCESSIVE PAIRS OF NUMBERS.

EXAMPLE:

A)


6
−5
−30
RULE 2
1
3
3
RULE 1
−4
−2
8
RULE 1
−720
−90
8
RULE 2
−720

B) −7 (X) −4 (X) 3 (X) −2 = −168



USING THE CALCULATOR – EXAMPLE A:

1) PRESS on/c

2) ENTER FIRST NUMERSL 6

3) PRESS FUNCTION KEY X

4) ENTER SECOND NUMERAL 5

5) PRESS +/− TO INDICATE THE 5 IS NEGATIVE

6) PRESS FUNCTION KEY X

7) ENTER THIRD NUMERAL 1

8) FUNCTION KEY X

9) ENTER FOURTH NUMERAL 3

10) ENTER FUNCTION KEY X

11) ENTER FIFITH NUMERAL 4

12) ENTER +/− TO INDICATE THE 4 IS NEGATIVE

13) ENTER FUNCTION KEY X

14) ENTER SIXTH NUMERAL 2

15) ENTER +/− TO INDICATE THE 2 IS NEGATIVE

16) PRESS =

17) THE ANSWER, −720, WILL APPEAR IN DISPLAY

EXAMPLE B:

PRESS on/c 7 +/− X 4 +/− X 3 X 2 +/− =

THE ANSWER, −168, WILL APPEAR IN DISPLAY

POSITIVE AND NEGATIVE NUMBERS

RULES FOR DIVISION

1) WHEN DIVIDING NUMBERS WITH THE SAME SIGN, THE ANSWER WILL ALWAYS BE POSITIVE.

EXAMPLES:

A) $-576 \div -32 = 18$

C) $765/17 = 45$

B) $\begin{array}{r} 36 \\ 24\overline{)864} \end{array}$

D) $\dfrac{-1827}{-87} = 21$

USING THE CALCULATOR – EXAMPLE A:

1) PRESS THE $\boxed{\text{on/c}}$ KEY

2) ENTER THE NUMBER TO BE DIVIDED $\boxed{5}$ $\boxed{7}$ $\boxed{6}$

3) PRESS $\boxed{+/-}$ (TO INDICATE THE NUMBER IS NEGATIVE)

4) PRESS FUNCTION KEY $\boxed{\div}$

5) ENTER NUMBER TO BE DIVIDED BY $\boxed{3}$ $\boxed{2}$

6) PRESS $\boxed{+/-}$ (TO INDICATE NUMBER IS NEGATIVE)

7) PRESS $\boxed{=}$

8) THE ANSWER, 18, WILL APPEAR IN THE DISPALY WINDOW

EXAMPLE B:

PRESS $\boxed{\text{on/c}}$ $\boxed{8}$ $\boxed{6}$ $\boxed{4}$ $\boxed{\div}$ $\boxed{2}$ $\boxed{4}$ $\boxed{=}$
THE ANSWER, 36, WILL APPEAR IN DISPLAY WINDOW

2) WHEN DIVIDING NUMBERS WITH OPPOSITE SIGNS, THE ANSWER WILL BE NEGATIV

EXAMPLES:

A) $-1582 \div 14 = -113$

C) $2922/-6 = -487$

B) $\begin{array}{r} -47 \\ -29\,\overline{)\,1363} \end{array}$

D) $\dfrac{-595}{17} = -35$

USING THE CALCULATOR – EXAMPLE A:

1) PRESS $\boxed{\text{on/c}}$
2) ENTER NUMBER TO BE DIVIDED $\boxed{1}\ \boxed{5}\ \boxed{8}\ \boxed{2}$
3) PRESS $\boxed{+/-}$ (TO INDICATE NUMBER IS NEGATIVE)
4) PRESS FUNCTION KEY $\boxed{\div}$
5) ENTER NUMBER TO BE DIVIDED BY $\boxed{1}\ \boxed{4}$
6) PRESS $\boxed{=}$
7) THE ANSWER, –113, WILL APPEAR IN DISPLAY WINDOW

EXAMPLE B:

PRESS $\boxed{\text{on/c}}\ \boxed{1}\ \boxed{3}\ \boxed{6}\ \boxed{3}\ \boxed{\div}\ \boxed{2}\ \boxed{9}\ \boxed{+/-}\ \boxed{=}$

THE ANSWER, –47, WILL APPEAR IN DISPLAY

POSITIVE AND NEGATIVE NUMBERS
MULTIPLICATION AND DIVISION
PRACTICE EXERCISES

A. 58	B. -18	C. -199	D. 55
x -16	x -19	x 9	x -12

E. -13 x -8 x 5 x 3 = ______

F. 16 x 3 x -23 x 2 = ______

G. -125 ÷ 5 = ______

H. -125 ÷ -5 = ______

I. -3021 ÷ 16 = ______

J. -58 ÷ -18 = ______

CHECK YOUR ANSWERS ON THE NEXT PAGE.

POSITIVE AND NEGATIVE NUMBERS
MULTIPLICATION AND DIVISION

ANSWERS

A. -928

B. 342

C. -1791

D. -660

E. 1560

F. -2208

G. -25

H. 25

I. -188.8125 OR $-188\frac{13}{16}$

J. $3.\underline{2222222222}$ OR $3\frac{2}{9}$

ORDERING NUMBERS

OUR NUMBER SYSTEM IS AN ORDERED NUMBER SYSTEM WHICH MEANS THAT FOR ANY TWO NUMBERS YOU SELECT ONE OF THE FOLLOWING STATEMENTS IS TRUE:

NUMBER a IS LARGER THAN NUMBER b.
NUMBER a IS EQUAL TO NUMBER b.
NUMBER a IS SMALLER THAN NUMBER b.

BECAUSE OF THIS ORDER PROPERTY YOU CAN ALWAYS ARRANGE A SET OF NUMBERS IN ORDER OF THEIR SIZE.

EXAMPLE: ARRANGE 3, 12, 9, 6, 2, 0 IN ORDER OF SIZE WITH THE SMALLEST NUMBER LISTED FIRST AND THE LARGEST NUMBER LAST.

ANSWER: 0, 2, 3, 6, 9, 12

EXAMPLE: ARRANGE 2.4, 6.1, 9.2, 8.3, 6.2 IN ORDER OF SIZE WITH THE SMALLEST NUMBER LISTED FIRST AND THE LARGEST NUMBER LAST.

ANSWER: 2.4, 6.1, 6.2, 8.3, 9.2

ORDERING NUMBERS

SOMETIMES YOU WANT TO ARRANGE NUMBERS THAT HAVE DIFFERENT NUMBERS OF PLACE VALUES.

FIRST ADD ZEROS TO EVEN THE PLACE VALUE AND THEN PUT THEM IN ORDER.

EXAMPLE: ARRANGE 3.2, 7.41, 6.4, 6.432, 7.42 IN ORDER OF SIZE WITH THE SMALLEST NUMBER LISTED FIRST AND THE LARGEST NUMBER LAST.

1ST. EVEN THE DECIMAL PLACES BY ADDING ZEROS AS NEEDED.

3.200, 7.410, 6.400, 6.432, 7.420

NOW ARRANGE THEM IN ORDER.

ANSWER: 3.200, 6.400, 6.432, 7.410, 7.420

OR 3.2, 6.4, 6.432, 7.41, 7.42

WHEN ORDERING NUMBERS THAT ARE BOTH POSITIVE AND NEGATIVE, REMEMBER THAT NEGATIVE NUMBERS ARE OPOSITES OF POSITIVE NUMBERS SO THE SIZE IS REVIRSED.

REMEMBER:
-8 IS LARGER THAN -20
-4.8 IS LARGER THAN -5
0 IS LARGER THAN -18

EXAMPLE: ARRANGE -4, 3, 7, -2, -8, 10 IN ORDER OF SIZE WITH THE SMALEST NUMBER FIRST AND THE LARGEST NUMBER LAST.

ANSWER: -8, -4, -2, 3, 7, 10

ORDERING NUMBERS

FINDING THE RANGE

IN STATISTICS IT IS IMPORTANT TO FIND THE DIFFERENCE BETWEEN THE LOWEST VALUE AND THE HIGHEST VALUE IN A SET OF NUMBERS.

THE DIFFERENCE BETWEEN THE LOWEST AND THE HIGHEST NUMBERS IN A SET OF NUMBERS IS CALLED THE RANGE OF THE SET OF NUMBERS.

EXAMPLE: FIND THE RANGE OF 2, 9, 6, 3, 12, 4

FIRST ARRANGE THE NUMBERS IN ORDER OF SIZE WITH THE SMALLEST NUMBER FIRST AND THE LARGEST NUMBER LAST.

2, 3, 4, 6, 9, 12

2 IS THE SMALLEST AND 12 IS THE LARGEST.

NOW SUBTRACT THE SMALLEST FROM THE LARGEST.

$12 - 2 = 10$ SO 10 IS THE RANGE.

EXAMPLE: FIND THE RANGE OF -4, 6, 12, -14, 3, -2

ARRANGE IN ORDER: -14, -4, -2, 3, 6, 12

SUBTRACT: $12 - (-14) = 26$

THE RANGE IS 26.

ORDERING NUMBERS
PRACTICE EXERCISES

ORDER THE FOLLOWING SETS FROM SMALLEST TO LARGEST.

1. 6, -2, 9, -8, -4, 0, 3
2. 6.1, 4.2, -6.1, -2.4, 8.3
3. 2.14, 2, 2.381, 4.26, 2.146
4. .32, .471, -.14, -2.1, 4.71

FIND THE RANGE OF THE FOLLOWING SETS OF NUMBERS.

5. 5, 9, 27, 3, 14, 0, 7
6. -5, 42, -8, 12, 6, 21
7. 4.32, 6.175, 5.2, 3.12. 8.1
8. -4.31, 5.3, -2.73, 9.1, 10, 0

CHECK YOUR ANSWERS ON THE NEXT PAGE.

ORDERING NUMBERS

PRACTICE EXERCISES

ANSWERS

1. -8, -4, -2, 0, 3, 6, 9
2. -6.1, -2.4, 4.2, 6.1, 8.3
3. 2, 2.14, 2.146, 2.381, 4.26
4. -2.1, -.14, .32, .471, 4.71

5. 27
6. 50
7. 4.98
8. 14.31

FINDING AVERAGES

STATISTICS IS A PROCESS OF GATHERING AND ORGANIZING NUMERICAL INFORMATION.

TWO IMPORTANT TASKS USED TO HELP ANALIZE NUMERICAL DATA ARE:

a) FINDING THE CENTER VALUE IN A LIST OF NUMBERS.

b) FINDING OUT HOW THE OTHER NUMBERS ARE ARRANGED AROUND THE CENTER VALUE.

CENTER VALUES ARE CALLED AVERAGES.

THERE ARE THREE COMMON TYPES OF AVERAGES USED IN STATISTICS. THEY ARE:

a) THE MEAN WHICH IS THE MOST COMMON ONE.

b) THE MEDIAN.

c) THE MODE.

FINDING AVERAGES
THE MEAN

FINDING THE MEAN AVERAGE.

TO FIND THE MEAN AVERAGE OF A SET OF NUMBERS YOU ADD ALL OF THE NUMBERS TOGETHER AND THEN DIVIDE THIS SUM BY THE NUMBER OF NUMBERS THAT ARE IN THE ORIGINAL SET.

EXAMPLE: FIND THE AVERAGE WEIGHT OF THE DETROIT LIONS OFFENSIVE LINE IF THE LINEMEN WEIGH 285, 266, 305, 284, AND 270.

STEP 1

$$\begin{array}{r} 285 \\ 266 \\ 305 \\ 284 \\ +\ 270 \\ \hline 1410 \end{array}$$

STEP 2

$$\begin{array}{r} 282 \\ 5\overline{)1410} \end{array}$$

THE MEAN AVERAGE IS 282

IF YOUR SET OF NUMBERS ARE BOTH POSITIVE AND NEGATIVE YOU STILL PROCEED THE SAME WAY TAKING CARE TO HANDEL THE SIGN OF THE NUMBERS CORRECTLY.

EXAMPLE: FIND THE AVERAGE OF 8, -2, 7, -4, 9 AND 3

$$\text{AVERAGE} = \frac{8 + (-2) + 7 + (-4) + 9 + 3}{6} = \frac{21}{6}$$

THE AVERAGE IS $\frac{21}{6}$ OR 3.5

AVERAGES

TO FIND THE AVERAGE OF A GROUP OF NUMBERS, FIND THE SUM OR TOTAL THEN DIVIDE BY THE NUMBER OF ENTRIES.

EXAMPLE:

A) 36
24
42
102 ÷ 3 = 34

B) 5.26
7.8
4.092
6.37
5.805
29.327 ÷ 5 = 5.865

C) 119.5
98.6
105.75
99.42
423.27 ÷ 4 105.818

D) .015
1.9
.12
1.367
.95
4.352 ÷ 5 = .87

USING THE CALCULATOR – EXAMPLE A:

PRESS	on/c	2ndF	on/c	3	6	M+	2	4	M+	4	2
M+	X ⟶ M										

FINDING AVERAGES

THE MEDIAN

THE MEDIAN IS ANOTHER KIND OF AVERAGE.

THE MEDIAN IS THE MIDDLE NUMBER IN A LIST OF NUMBERS THAT HAVE BEEN LISTED IN ORDER OF SIZE.

EXAMPLE: FIND THE MEDIAN OF 3, 9, 4, 12, 10

STEP 1 PUT THE NUMBERS IN ORDER OF SIZE.

3, 4, 9, 10, 12

STEP 2 LOCATE THE MIDDLE NUMBER.

3, 4, 9, 10, 12

THE MEDIAN IS 9

SOMETIMES THERE ARE TWO MIDDLE NUMBERS. IF THERE ARE TWO MIDDLE NUMBERS THE MEDIAN IS THE MEAN AVERAGE OF THOSE TWO NUMBERS.

EXAMPLE: FIND THE MEDIAN OF 3, 7, -2, 12, 4, 6

STEP 1 PUT THE NUMBERS IN ORDER OF SIZE.

-2, 3, 4, 6, 7, 12

STEP 2 LOCATE THE MIDDLE NUMBERS

-2, 3, 4, 6 7, 12

STEP 3 FIND THE MEAN AVERAGE OF 4 AND 6.

$$\frac{4 + 6}{2} = 5$$

THE MEDIAN IS 5.

FINDING AVERAGES

THE MODE

THE MODE IS THE NUMBER WHICH OCCURES MOST OFTEN IN A LIST OF NUMBERS.

FINDING THE MODE.

EXAMPLE: FIND THE MODE OF 6, -2, 8, 6, 8, 4, 6, -2, 9
6 IS THE MODE BECAUSE IT IS LISTED 3 TIMES
WHICH IS MORE THAN ANY OTHER NUMBER.

IF TWO NUMBERS ARE LISTED AN EQUAL NUMBER OF TIMES THEN WE SAY THAT THERE ARE TWO MODES.

EXAMPLE: FIND THE MODE FOR -3, 4, 8, -3, 8, 7, 10, 12
BOTH 8 AND -3 ARE MODES FOR THIS SET SINCE
THEY ARE LISTED AN EQUAL NUMBER OF TIMES.

FINDING AVERAGES
PRACTICE EXERCISES

FIND THE MEAN, THE MEDIAN AND THE MODE FOR EACH OF THE FOLLOWING SETS OF NUMBERS.

1. 3, 6, 4, -2, 7, 6, 6
2. -3, 0, 4, -2, 4, 7, 4
3. 9, 12, -14, 6, 12, -2, 12
4. 6, 9, 6, 9, 6, 9, 6, 9
5. 2.4, 6.2, -3.2, 9.5, 6.2,-3.1

ANSWERS

	MEAN	MEDIAN	MODE
1.	5	6	6
2.	2	4	4
3.	5	9	12
4.	7.5	7.5	6 AND 9
5.	3	4.2	6.2

For more information, contact:
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WORKPLACE LITERACY PROJECT

May 1, 1992 - October 31, 1992

COMMUNICATIONS

BUSINESS & INDUSTRY TRAINING

a Division of
Mott Community College
Community Education
711 N. Saginaw St., Ste. 123, Flint, MI 48503 (313) 762-0386

COMMUNICATIONS

Facilitator: Russell A. Carson, Sr. May 20, 1992

Site: Semtron

This course is designed to facilitate participants acquiring a basic understanding of communications skills and their applications in individual and group situations.

GOAL:	The student will gain a basic understanding of oral communications skills and techniques which promote more effective communication.
Objective #1:	To review practices and habits which may inhibit effective communication.
Objective #2:	To review skills and techniques which facilitate effective communication.
Objective #3:	To review skills and techniques which facilitate the participant communicating more effectively in group situations.
Objective #4:	To facilitate the development or enhancement of an awareness or appreciation of differences in opinion, perspectives, values, roles, etc. which impact communication.

Course Materials & Strategy

No textbooks are required. Necessary materials will be supplied in class. A self-assessment will be administered at the beginning and at the end of the course. The assessment is intended to provide the student with an opportunity to review his/her abilities and experiences in certain skill areas. Additionally, it will provide the instructor with an opportunity to tailor the course to better satisfy the needs of the participants.

Week#1:

1. Registration
2. Assessment
3. Examine how individual needs play a role in communication.

Week #2:

1. Examine how values shape and impact communication.
2. Examine role of perspective in communication.
3. Explore how perceptions impact communication.

Week #3:

1. Develop an understanding of assumptions and their impact on communication.
2. Examine stereotypes and suspicions how they impact communication. Develop an understanding of the concept of "subjective realities" and the concept's implications for communication.

Week #4:

1. Examine a model for effective communication.
2. Develop an understanding of communication styles.
3. Examine one's own style of communication.

Week #5:

1. Examine types and styles of criticism.
2. Examine verbal and non-verbal elements of communication.
3. Explore the role of feedback in effective communication.
4. Examine forms of verbal and non-verbal feedback.

Week #6:

1. Develp an understanding of the nature and benefits of active listening.
2. Develop an understanding of active listening techniques.
3. Examine appropriate uses of empathy.

Week #7:

1. **Examine a model for effective confrontation.**
2. **Develop effective confrontation skills.**

Week #8:

Confrontation techniques continued

Week #9:

1. **Examine the dynamics of group discussions.**
2. **Develop effective group discussion techniques.**

Week #10

1. **Course Evaluation**
2. **Post-Assessment**
3. **Wrap-up**

Needs

What are they?

List Several Types

Maslow's Hierarchy of Needs

Values

What are values?

How do they impact our interactions with other people?

Perceptions

Assumptions

Sterotypes

Suspicions

COMMUNICATION

What is communication?

Why is the significance of communication?

The Communications Model

Coding:

Message:

Elements of the Message:

Decoding:

Feedback:

Elements of Feedback:

Effective Listening

Criticism

Criticize

Positive Criticism

Negative Criticism

ACTIVE LISTENING

1.

2.

3.

4.

CONFRONTATION

What is it?

Why do it?

Model For Confrontation.

Rules: Never confront when you are angry.

Never confront when the person is high.

Be sure of your own motives.

1. Begin with specific behavior

   "When you . . .

2. Express how you feel

   "I feel . . .

3. Give your reason

   " . . . because . . .

BRAINSTORMING

What is it?

Guidelines:

1. Question/Issue

2. Record

3. Focus on Matter-At-Hand

4. Idealized Design (not Utopian)

Additional Considerations For Group Situations

1. Everything Goes

2. Cultivate Ideas

3. Conspicuous Documentation

4. On-the-Issue Discussion

5. Clarification But No Editing

6. Piggy-Back

7. Synergy

8. Other People's Perspective

Discussion Leadership Skills

Intent:

3-Phases of Dialogue:

- **Starting**

- **Guiding**

- **Stopping**

ASSESSMENT OF COMMUNICATION VALUES and STYLES

1. The most important thing(s) for me to have happen when having a conversation or a discussion is . . .

2. To accomplish these things, I do the following . . .

3. The person with whom I have the most enjoyable discussions is ______________________________. The discussions are so enjoyable because . . .

4. Based on the way I communicate, I believe people perceive me in this way . . .

5. Most of the time, what I would like to communicate to people is that I am . . .

6. In discussions, I usually talk (more/less/same/don't know) than the other person.

7. The one person with whom I have the most difficulty having discussions is ______________________________. The reason why it is so difficult is because . . .

8. When having a conversation or discussion, I dislike it when people do the following . . .

9. I am most lilely to get into an argument or heated discussion when . . .

10. I am most likely to become defensive when . . .

11. If I am involved in an argument or heated discussion and want to turn the situation around, I do the following . . .

12. I feel that my most valuable communication skills and qualities are . . .

13. The communication skills that I have the most difficulty with or would most like to improve are . . .

14. I will benefit by improving my skills in the following ways . . .

*Developed by Community Board Program -- Conflict Management Worksheet

EFFECTIVE LISTENING TECHNIQUES

1. STOP TALKING
2. EMPATHIZE
3. ASK QUESTIONS
4. BE PATIENT
5. CONCENTRATE
6. LOOK AT THE OTHER PERSON
7. LEAVE YOUR EMOTION BEHIND IF YOU CAN
8. GET RID OF DISTRACTIONS
9. GET THE MAIN POINTS
10. SHARE RESPONSIBILITY FOR COMMUNICATION
11. REACT TO IDEAS, NOT TO THE PERSON
12. ARGUE MENTALLY
13. LISTEN TO HOW SOMETHING IS SAID
14. DON'T ANTAGONIZE THE SPEAKER
15. LISTEN FOR THE OTHER'S PERSONALITY
16. AVOID ASSUMPTIONS
17. Don't CLASSIFY THE SPEAKER
18. AVOID HASTY JUDGEMENT
19. RECOGNIZE YOUR OWN PREJUDICES

Summarized from the Community Boards' Community Conflict Resolution, pp19-21

I-MESSAGE EXERCISE

Design an I-message for each of the following situations.

1. You lent your keys to a co-worker at the office. When she/he returned them, two keys were missing.

2. Two employees in your division are talking while you are conducting your weekly briefing.

3. When you walk past Willie and Joe as you finish giving a briefing, you hear your name spoken in hushed tones.

4. When you come home from work, you go to the kitchen to get a beer. I turns out that your 22 year old son and his friend have just finished the last two beers.

I-MESSAGES

When you send an "I-message", you take responsibility for your own inner condition and share this assessment of yourself with another person.

You leave the responsibility for the other person's behavior with that other person.

I-messages meet three important criteria for effective confrontation:

1. They have a high probability of promoting a willingness to change.
2. They contain minimal negative evaluation of the other person.
3. They do not injure the relationship.

To formulate an I-message you must develop a message that:

1. Is a non-blaming, nonjudgemental description of what is unacceptable.

   "When I find toys in the driveway . . . "
   "When you don't call to say you'll be late for dinner . . . "

2. Communicates the effect of that person's behavior on you.

   " . . . I have to spend a lot of my time picking them up . . . "
   " . . . the food sometimes gets dried out or burned . . . "

3. Communicates the feelings generated within you because of the effect.

   " . . . and I get upset."
   " . . . then I feel ineffective."

This sequence is not fixed. An I-message in any order has a high probability of being heard as an honest, open statement.

ACTIVE LISTENING EXERCISE

For each of the following, you will be asked to make-up a role play situation. Your assignment is to develop the role which you will later be asked to perform. Be sure to:

1. Come up with what has happened.
2. Decide how you will convey the emotion involved.

Remember content of what we say, tone of voice, body language, posture all combine to convey messages. Use the space to make notes on how you will play each situation.

1. You have just received some good news and are visibly pleased.

2. You have just had a disappointment (which did not involve the person to whom you will be speaking).

3. The person to whom you are speaking has upset you by something they have done.

DISCOVERY QUESTIONS

1. How are things going?
2. What problems have you had lately?
3. You seem (troubled/upset/worried) lately. What's happening?
4. What do you feel has been different around here lately?
5. What do you think changed?
6. How has your work been going?
7. Where do you need help?
8. What are you satisfied or dissatisfied about?
9. What do you find confusing?
10. What is your position on this matter?
11. What's on your mind?
12. Lately I've noticed some indications of (lateness/slower work/lower quality). What do you think?
13. You don't seem to be yourself these days. How come?
14. What are your feelings about this (conflict/situation)?
15. What opinions do you have about this problem?
16. What (tensions/problems/disagreements/misunderstandings/conflicts/ troubles) have you been aware of lately?
17. What is your evaluation of this situation?
18. How closely do you think we've been seeing eye to eye lately?
19. Where do you think our views differ?
20. What have I done that you (disagree with/object to/dislike/disapprove of/do not understand/are confused about)?
21. What about your (viewpoint/attitude) do you feel I've missed?
22. What do you think are our chances of success on this program?
23. What ideas and suggestions do you have regarding this project?
24. In what areas do you feel (confident/ a lack of confidence)?
25 What's bugging you?
26. What's happening?
27. What's wrong?
28. Who is involved and how?
29. How do you see what's going on?
30. How does the problem impact you?

Developed by Sandy Pokras, Systematic Problem-Solving and Decision-Making, p36.

DISCUSSION LEADERSHIP SKILLS REVIEW

Starting Skills:

1. Know the issues before beginning.
2. Have easy reference notes and outlines available.
3. Get attention and call people to order.
4. Announce agenda items.
5. State points and problems clearly.
6. Establish realistic time frames.
7. Ask questions to get group thinking.
8. call people by name.
9. Draw people out, especially quiet ones.
10. Notice and call on those with something to say.
11. Introduce new viewpoints into an ongoing discussion.

Guiding Skills

1. Listen carefully to all participants.
2. Use silence effectively and wait out pauses.
3. Read indicators and body language.
4. Remain neutral to insure acceptance of all ideas.
5. Be sensitive and adjust to moods to keep things moving.
6. Follow the agenda and keep discussions on track.
7. Restate topic to focus the group on one issue at a time.
8. Steer discussions towards the desired results.
9. Clarify meanings and restate questions.
10. Avoid interfering with interactions.
11. Turn provocative questions back to the group.
12. Balance participation between different styles.
13. Mediate conflicting viewpoints so all are heard.
14. Manage diversions, digressions and distractions.
15. Watch the clock and keep time frames apparent.
16. Reflect on repeating patterns and asking for reaction.

Stopping Skills:

1. Acknowledge what people have said.
2. Insure each participant get to finish.
3. Prevent individuals from talking at the wrong time.
4. Stop people who say things over and over.
5. Protect individuals by discouraging attackers.

For more information, contact:
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WORKPLACE LITERACY PROJECT

May 1, 1992 - October 31, 1992

HUMAN RELATIONS

BUSINESS & INDUSTRY TRAINING

a Division of
Mott Community College
Community Education
711 N. Saginaw St., Ste. 123, Flint, MI 48503 (313) 762-0386

HUMAN RELATIONS

Facilitator: Russell A. Carson, Sr. April 27, 1992

Training Goal and Objectives:

This course is designed to facilitate participants acquiring a basic understanding of human relations and the interaction that takes place among diverse groups.

GOAL: **The student will gain a basic understanding of human relations and group dynamics.**

Objective #1: **To review skills and techniques which facilitate effective communication.**

Objective #2: **To review skills and techniques which facilitate the participant working more effectively in group situations.**

Objective #3: **To review strategies and techniques which facilitate the development or enhancement of conflict management and problem solving abilities.**

Objective #4: **To facilitate the development or enhancement of an awareness or appreciation of the values we and others possess.**

Objective #5: **To facilitate the development or enhancement of an awareness or appreciation of differences in opinion, perspectives, values, etc. which are shaped by ethnic, gender, class and cultural backgrounds**

Course Materials & Strategy

No textbooks are required. Necessary materials will be supplied in class. A self-assessment will be administered at the beginning and at the end of the course. The assessment is intended to provide the student with an opportunity to review his/her abilities and experiences in certain skill areas. Additionally, it will provide the instructor with an opportunity to tailor the course to better satisfy the needs of the participants.

Week #1:

1. Assessment
2. Examine the concept of needs and the role they play in our interactions with others.

Week #2:

1. Examine how values are derived and how they shape and impact our interactions with others.
2. Examine factors which shape our perspective and explore the role perspective plays in human interaction.
3. Explore how perceptions are developed and how they impact our relationships with other people.
4. Develop an understanding of how assumptions, stereotypes and suspicions are generated and their impact on human interaction.

Week #3:

1. Develop an understanding of the concept of "subjective realities" and the concept's implications for our interactions with others.
2. Develop an understanding of interaction styles.
3. Develop an understanding of the nature of criticism and its appropriate use.

Week #4:

1. Develop an understanding of the nature and benefits of active listening.
2. Develop an understanding of active listening techniques.
3. Develop and understand of empathy and its appropriate use.

Week #5:

1. Explore the concept of confrontation and it appropriate use.
2. Examine a model for effective confrontation.
3. Develop effective confrontation skills.

Week #6:
1. Examine factors which foster or promote prejudice and discrimination.
2. Examine factors which have fostered or influenced the generation ethnic, gender, class, racial and cultural issues.

Week #7:

Continue Examine factors which have fostered or influenced the generation ethnic, gender, class, racial and cultural issues.

Week #8:

Explore the nature of stress and stress management techniques.

Week #9:
1. Wrap-up.
2. Post-Course Assessment

Needs

What are they?

List Several Types

Maslow's Hierarchy of Needs

Values

What are values?

How do they impact our interactions with other people?

Perceptions

Assumptions

Sterotypes

Suspicions

Criticism

Criticize

Positive Criticism

Negative Criticism

ACTIVE LISTENING

1.

2.

3.

4.

DISCUSSION LEADERSHIP SKILLS

Intent:

3-Phases of Dialogue:
- **Starting**

- **Guiding**

- **Stopping**

BRAINSTORMING
What is it?

Guidelines:

1. Question/Issue
2. Record
3. Focus on Matter-At-Hand
4. Idealized Design (not Utopian)

Additional Considerations For Group Situations

1. Everything Goes
2. Cultivate Ideas
3. Conspicuous Documentation
4. On-the-Issue Discussion
5. Clarification But No Editing
6. Piggy-Back
7. Synergy
8. Other People's Perspective

CONFRONTATION

What is it?

Why do it?

Model For Confrontation.

Rules: Never confront when you are angry.

Never confront when the person is high.

Be sure of your own motives.

1. Begin with specific behavior

   "When you . . .

2. Express how you feel

   "I feel . . .

3. Give your reason

   " . . . because . . .

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WORKPLACE LITERACY PROJECT

May 1, 1992 - October 31, 1992

PROBLEM SOLVING

BUSINESS & INDUSTRY TRAINING

a Division of
Mott Community College
Community Education
711 N. Saginaw St., Ste. 123, Flint, MI 48503 (313) 762-0386

PROBLEM SOLVING/DECISION-MAKING/ACTION PLANNING

Facilitator: Russell A. Carson, Sr. April 22, 1992

Site: MCC/Lapeer

Training Goal and Objectives:

This course is designed to facilitate participants acquiring a functional understanding of the skills needed to: (1) identify the nature and primary cause of a problem; (2) develop optimal solution strategies; and (3) gain the commitment of individuals whose participation is required for the successful resolution of the problem.

Goal:	**To facilitate the development and refinement of training participant skills which may enable them to effectively address problem-solving and decision-making situations.**
Objective #1:	**To review skills and techniques which facilitate effective communication.**
Objective #2:	**To review skills and techniques which foster effective and productive meetings.**
Objective #3:	**To review skills and techniques which facilitate the development of problem identification abilities.**
Objective #4:	**To review strategies and techniques which facilitate the development of the ability to identify and gain commitment on optimal problem solutions**
Objective #5:	**To review strategies and techniques for translating problem resolution decisions into reality.**

Course Materials & Strategy

No textbooks are required. Necessary materials will be supplied in class. A self-assessment will be administered at the beginning and at the end of the course. The assessment is intended to provide the student with an opportunity to review his/her abilities and experiences in certain skill areas. Additionally, it will provide the instructor with an opportunity to tailor the course to better satisfy the needs of the participants.

Session #1:
1. Assessment
2. Course overview.

Session #2:
1. Characteristics of typical problems.
2. Factors which contribute to successful problem resolution.
3. Examine factors which inhibit problem resolution.

Session #3:

Explore the elements of a problem.

Session #4:

Examine of problem recognition techniques.

Session #5:
1. Develop an understanding of the nature of symptoms, causes and effects and their relationships to each other.
2. Examine and develop an appreciation for the difference between symptoms treatment and cause elimination.

Session #6:

Develop an understanding of data types and collection techniques.

Session #7:

Develop skills and techniques for maximizing group participation in problem recognition, decision-making and problem elimination processes.

Session #8:

Develop skills and techniques for effective problem-cause analysis.

Session #9:

Develop skills and techniques which foster the generation of problem solutions options.

Session #10:

Problem solutions continued.

Session #11:

Develop skill and techniques for optimal decision-making.

Session #12:

Decision-making skills and techniques continued.

Session #13:

Develop skills and techniques for action planning.

Session #14:

Continue development of skills and techniques for action planning.

Session #15:

Taking off the blinders.

Session #16:

1. Post-training Assessment.
2. Wrap-up.

SYSTEMATIC PROBLEM-SOLVING and DECISION-MAKING

Facilitator: Russell A. Carson, Sr. April 25, 1992

Training Goals and Objectives:

Goal: **To facilitate the development and refinement of volunteer skills which may enable them to effectively address problem-solving and decision-making situations.**

Objective #1: **To review skills and techniques which facilitate effective communication.**

Objective #2: **To review skills and techniques which foster effective and productive meetings.**

Objective #3: **To review skills and techniques which facilitate the development of problem identification abilities.**

Objective #4: **To review strategies and techniques which facilitate the development of the ability to identify and gain commitment on optimal problem solutions**

Objective #5: **To review strategies and techniques for translating problem resolution decisions into reality.**

Six Steps to Systematic Problem-Solving and Decision-Making

1.
2.
3.
4.
5.
6.

What Is A Problem?

Characteristics Which Are Typical of a Problem Situation

Balanced Conflict

Problem-Solving and Decision-Making Techniques in Non-Conflict Situations

Five Elements of a Problem

1.

2.

3.

4.

5.

Role of Communication in Problem-Solving/Decision-Making Situations

Active Listening Techniques

1.

2.

3.

4.

ORGANIZED MEETINGS

Meeting Roles

Why bother?

Suggested Roles:

a.

b.

c.

d.

e.

Discussion Leadership Skills

Intent:

3-Phases of Dialogue:

Starting

Guiding

Stopping

Documentation

Why Bother?

Documentation Techniques:

1.
2.
3.
4.
5.
6.
7.
8.

A Meeting Evaluation Tool

1
2.
3.
4.
5.

DETERMINING THAT A PROBLEM EXISTS

How do we know that a problem exists?

Getting Agreement That A Problem Exists

1. Discovery Questions

2. Getting Agreement on Problem Technique (deals with agreeing
on
existence of problem -- not on solution to problem).

BRAINSTORMING

What is it?

Guidelines:

1. Question/Issue

2. Record

3. Focus on Matter-At-Hand

4. Idealized Design (not Utopian)

Additional Considerations For Group Situations

1. Everything Goes

2. Cultivate Ideas

3. Conspicuous Documentation

4. On-the-Issue Discussion

5. Clarification But No Editing

6. Piggy-Back

7. Synergy

8. Other People's Perspective

Six-Step Problem Solving Process

Step 1. PROBLEM RECOGNITION

Key elements of Step 1.:

a.
b.
c.
d.
e.
f.

Data Collection

Hard Data

Soft Data

Symptom Identification

Data Collection Methodology

Data Collection Worksheet:

General Info Needed to Identify Problem

Developed by Sandy Pokras, Systematic Problem-Solving and Decision-Making, p33.

Methods

Targeting Specific Data

Data Collection Methods & Specific Target Data Worksheets:

Methods	Target Data

Data Collection Interviews

Group Brainstorming

Step 2. PROBLEM LABELING

What is it?

Why do it?

Problem Labeling Techniques:

a.
b.
c.
d.

Data Analysis:

Data Analysis Worksheet:

Symptom	Type	Denominator
	Common Denominators/ Patterns	

Developed by Sandy Pokras, Systematic Problem-Solving and Decision-Making, p43.

Group Brainstorming

Sample Prompters

Force-Field Analysis

"A" versus "B" Format (explanation & draw diagram)

"Obstacles" Format (explanation & draw diagram)

Key Word Analysis

Steps to key word analysis:

a.

b.

c.

d.

(Explanation & draw diagram)

Step 3. PROBLEM-CAUSE ANALYSIS

Symptom vs Root Cause

To what does the term "root cause" refer?

Causes:

Effects:

CAUSE ANALYSIS WORKSHEET